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Gateway Clean Air Program
Annual RapidScreen Report
January – December 2002

Prepared for:

Missouri Department of Natural Resources

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Table of Contents

List of Tables

List of Figures

Glossary of Terms and Abbreviations

Basic I/M	A set of vehicle I/M program inspection requirements defined by the U.S. EPA that may be used in areas not required to implement an Enhanced I/M program; the inspection procedure usually involves idle testing
Clean Screening	The process of identifying vehicles with low emissions that are then exempt from emission inspection at an inspection station
CO	Carbon monoxide
CO2	Carbon dioxide
Cutpoint	An emissions level used to classify vehicles as having met an emissions inspection requirement
Enhanced I/M	A set of more rigorous vehicle I/M program inspection requirements defined by the U.S. EPA that usually involves IM240 testing
EPA	United States Environmental Protection Agency
ESP Missouri	Environmental Systems Products Missouri Inc., the MDNR contractor for the Gateway Clean Air Program
Excess Emissions	Vehicle emissions that exceed an I/M cutpoint
FTP	Federal Test Procedure
g/mi	Grams per mile, the units of measurement for FTP and IM240 tests
GVWR	Gross Vehicle Weight Rating
HC	Hydrocarbons
High Emitter Identification	The on-road identification of vehicles with high emission levels
I/M	Inspection and maintenance program
Idle Test	A tailpipe emission test conducted when the vehicle is idling and the transmission is not engaged
IM240 Test	A loaded-mode transient tailpipe emission test conducted when the vehicle is driven for up to 240 seconds on a dynamometer, following a specific speed trace that simulates real world driving conditions
kW/t	Kilowatts per metric ton, the units of measurement for vehicle specific power

LDGV	Light-duty Gasoline-powered Vehicle
LDGT	Light-duty Gasoline-powered Truck
LEI	Low Emitter Index
MDNR	Missouri Department of Natural Resources, the oversight agency for the Gateway Clean Air Program
MDOR	Missouri Department of Revenue, the state agency responsible for vehicle registration renewal and tracking
NOx	Oxides of nitrogen, usually measured as nitric oxide (NO)
Repairable Emissions	The emission reductions that can be obtained by repairing a vehicle. The amount of repairable emissions is equal to or greater than the amount of excess emissions
RS≡A	Remote Sensing Air Inc., a St. Louis-based company that ESP Missouri has contracted to conduct RapidScreen quality assurance
RSD	Remote Sensing Device
VIN	Vehicle Identification Number
VDR	Vehicle On-road Record
VMR	Vehicle RapidScreen Mailing Record
VMT	Vehicle Miles Traveled
VSP	Vehicle Specific Power; estimated engine power divided by the mass of the vehicle
VTR	Vehicle Test Record

I. Summary

The Missouri Department of Natural Resources operates a vehicle emissions inspection and maintenance program to improve air quality in the greater St. Louis metropolitan area. The Gateway Clean Air Program consists of an enhanced biennial I/M program in Jefferson County, St. Charles County, St. Louis County and St. Louis City and an annual basic I/M program in Franklin County. The centralized program is operated by a contractor, Environmental Systems Products Missouri.

The Gateway Clean Air Program is the first I/M program in the country to integrate clean screening from the outset as a means of improving motorist convenience and reducing the overall number of inspection lanes required. The program design includes a two model year new vehicle exemption accounting for approximately 15% of vehicles with a further 25% of vehicles to be selected using clean screening methods to meet a combined 40% clean screening goal. The contractor is required to report annually on the effectiveness of the clean screening program known as RapidScreen.

Preliminary remote sensing data collection started in October 1999. The first pilot RapidScreen notices were issued in the first quarter of 2000. Full RapidScreen processing and full testing at stations commenced in April 2000. The first RapidScreen audit report[1] covered the preliminary six-month startup period from October 1999 through March 2000 and the first twelve months of full program operations from April 2000 through March 2001. In order to bring the reporting back onto a calendar year cycle, the 2001 report covered the full calendar year for 2001. This RapidScreen report covers the calendar year 2002.

A. RapidScreen Effectiveness

RapidScreen notices were sent out in 2002 to 171,247 owners of vehicles with registrations due in 2002. For those 2002 registrants, 133,606 vehicle owners took advantage of the program by redeeming their notices. This represents an estimated 19% of St. Louis area vehicle registrations for the period. New model vehicle exemptions averaged 15% for the registration year 2002. Therefore, with 34% of the total vehicles exempted from a station-based emissions inspection, the program fell short of achieving the 40% clean screening goal. Nevertheless, more than one third of vehicle owners benefited from the clean screening program. An additional 5% of motorists who were mailed RapidScreen notices were eligible to benefit from the clean screening program but did not redeem the notice. Thus, the clean screening program could have exempted 39% of the total vehicles, nearly meeting the goal, if every mailed RapidScreen notice had been redeemed. Section III of this report contains specific information on the number of on-road measurements and the number of RapidScreen notices issued and redeemed.

Quality control and quality assurance continue to be important elements of the success of the RapidScreen program. The tag editing of license plate images is controlled using 200 quality assurance samples per dataset. All errors identified are corrected. The average QA error rate in the RapidScreen notice processing is 0.4% from tag edit errors and 1.7% from other

sources. Additional statistics on quality control and quality assurance activities are provided in section III. C.

The emissions effectiveness of the RapidScreen program has been calculated using the results of a random 2% audit sample of vehicles identified as clean by the RapidScreen program. Instead of receiving a RapidScreen notice, these vehicles are tested at the inspection stations. The audit sample test results are then used to calculate the air quality impact of exempting the RapidScreen vehicles from a station-based test. The calculations are described in section IV and section VII. The RapidScreen program retained 97% of HC tailpipe reductions, 85% of gas cap related HC reductions, 98% of CO reductions and 92% of NOx reductions of the Gateway Clean Air Program. Therefore, the program continues to meet the goal of retaining 95% of the tailpipe HC emission reductions.

B. On-Road Fleet Emissions

The approximately 4.9 million measurements collected for the RapidScreen program in 2002 have been used to establish the emissions characteristics of the on-road fleet. Charts showing emissions by vehicle type and model year are provided in section V.

C. Suggested Follow-up

Although the RapidScreen program appears to be working well, follow-up investigation is suggested on the following items to determine whether the RapidScreen performance could be further improved by:

- Fine adjustment of the remote sensing measurement values using an assumption of uniform performance for the newest on-road vehicles;
- Adjustment of NOx measurements to account for VSP

In addition, the introduction of pass/fail OBD inspections without tailpipe measurements requires that consideration be given as to how to maintain adequate information for continuing evaluation of the program.

These items are discussed in section VII.

II. Program Description and Reporting Requirements

A. RapidScreen and I/M Program Elements

1. I/M Program Overview

The Gateway Clean Air Program implemented in the St. Louis metropolitan area consists of a centralized enhanced biennial I/M program in Jefferson County, St. Charles County, St. Louis County and St. Louis City and a centralized basic annual I/M program in Franklin County. The program tests gasoline-powered passenger vehicles under 8,500 pounds Gross Vehicle Weight Rating (GVWR). Station-based testing began on April 5, 2000. EPA-recommended phase-in IM240 cutpoints were in use in the Enhanced area through February 3, 2002. EPA-recommended final IM240 cutpoints have been in use in the Enhanced area since February 4, 2002. EPA-recommended idle test cutpoints are currently in use in the Basic area.

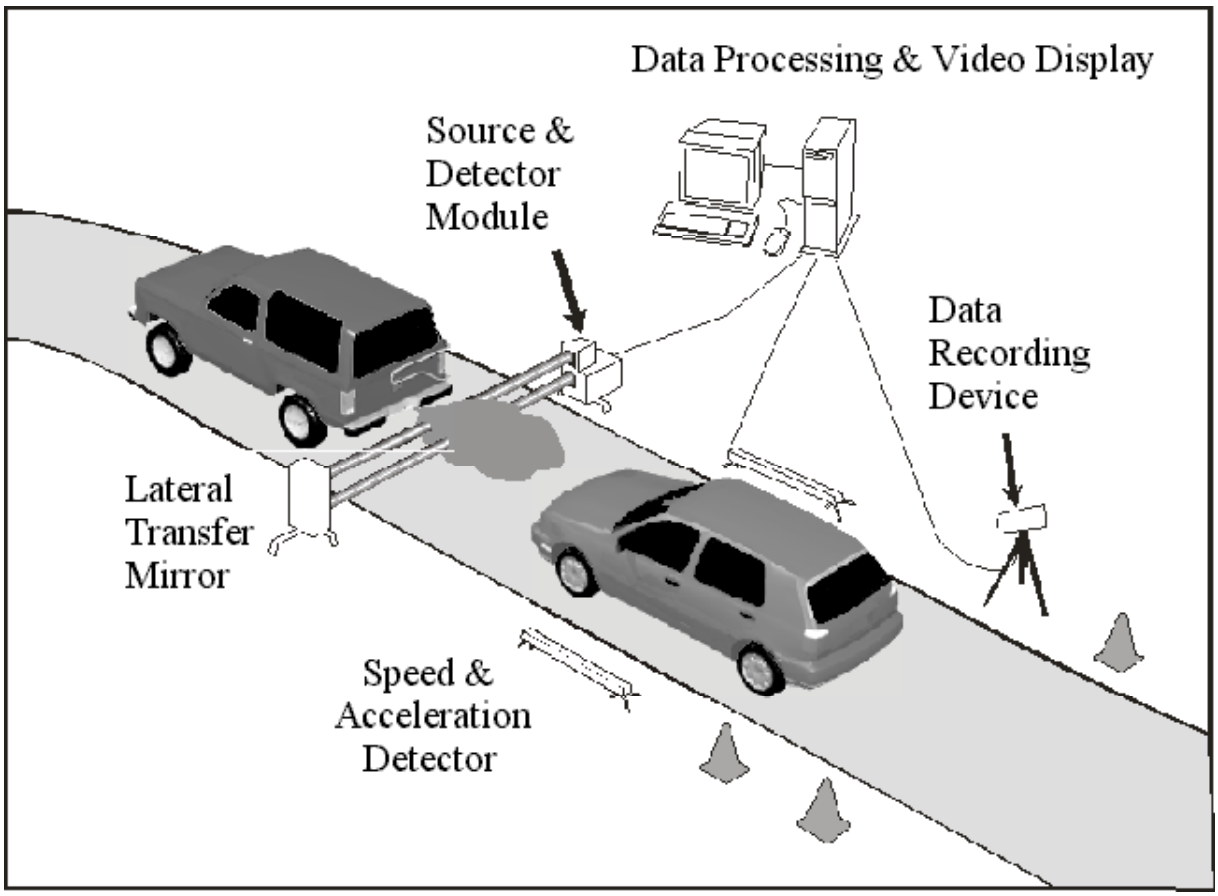
The Missouri Department of Natural Resources (MDNR) oversees the Gateway Clean Air Program. Through a competitive bid process, testing operations have been contracted to Environmental Systems Products (ESP) Missouri.

The Gateway Clean Air Program is the first I/M program in the country to incorporate clean screening from the outset. Clean screening is a relatively new I/M program feature announced by the U.S. EPA in a guidance document issued in May 1998 that allows low emitting vehicles to be exempted from emission testing at inspection stations. On-road vehicles are typically measured using remote sensing devices (RSD). The typical setup is illustrated in Figure II-1. Those vehicles that are determined to have emissions below specific cutpoints are exempted from having to come to an emissions testing station to obtain their emissions test. The clean screening program implemented in Missouri is known as RapidScreen.

RapidScreen was designed into the Gateway Clean Air Program to maximize motorist convenience. Up to 40% of the vehicles do not have to be emission tested at a test station. Owners of these vehicles can forego the travel to a test station, which is estimated to be an average round-trip distance of 8 miles and an average round-trip travel time of 30 to 45 minutes, in addition to the time actually spent at the test station.

Vehicles registered in the Basic area can opt to obtain a biennial enhanced inspection instead of the annual basic test. Therefore, Franklin County vehicles are also able to participate in the RapidScreen program.

Figure II-1 On-road Remote Sensing Setup



2. RapidScreen Methods

The RapidScreen program design includes a statutory exemption for the first two model year vehicles accounting for approximately 15% of vehicles with a further 25% of vehicles to be selected using clean screening methods to meet the 40% RapidScreen goal. During the first three and a half years of the program, 20% of vehicles are to be selected for RapidScreening using remote sensing.

Initially three clean screening methods were used to select vehicles for the RapidScreen program:

- RSD – the vehicle passed the two most recent RSD measurements made on different days.
- Hybrid – the vehicle passed the most recent remote sensing measurement and meets low emitter index cutpoints.
- LEI – the vehicle is a make/model that has performed well on past emissions tests and meets low emitter index cutpoints.

Additional details about the three clean screening methods are provided in Missouri I/M Program Clean Screening Plan[2].

The original MDNR design called for the contractor to select 20% of the vehicles for RapidScreening using the RSD method described in the EPA Clean Screening Guidance document[3]. This method uses the two most recent RSD measurements for a vehicle collected on different days within the twelve months prior to the registration renewal date. The remaining 5% of vehicles were to be selected for RapidScreening using either the EPA-approved LEI method or an alternative method that has been approved by the EPA and the MDNR. In their response to the MDNR Request For Proposals, ESP proposed to use both the LEI method and the Hybrid method, which is an alternative method, for the remaining 5%. The LEI method was discontinued for November 2000 and all subsequent registrations. Therefore, the remaining 5% consist of Hybrid identified vehicles.

The RapidScreen cutpoints used for the RSD method are 200 ppm HC, 0.5% CO and 2,000 ppm NOx. Vehicle emissions must be below all three values on the most recent two measurements in order to be eligible for a RapidScreen notice.

With the Hybrid method, vehicles are only measured on-road once. The vehicle emissions must be below all three RSD cutpoints on the most recent measurement. In addition, low emitter index predicted reductions for the vehicle must be less than 0.15 g/mi HC, 2 g/mi CO and 0.05 g/mi NOx

B. Reporting Requirements

1. RapidScreen Reporting Requirement

ESP Missouri, the vehicle emissions testing contractor for Missouri Department of Natural Resources, conducts the RapidScreening program as part of the Gateway Clean Air Program. The contract requires the ESP Missouri to report annually:

- The number of vehicles clean screened broken down by vehicle year, make and model and by county and ZIP code (See section III. B.);
- Information regarding the random sample of vehicles required to undergo emissions testing instead of being clean screened, including, but not limited to, a comparison of the remote sensing records, vehicle profile or model year compared with the actual emissions testing records of the random sample (See sections IV. B. and IV. C.).

2. On-Road Reporting Requirement

The Clean Air Act Amendments of 1990 require enhanced I/M programs to supplement the station-based testing with an on-road/remote sensing-based high emitter identification element.

The Code of Federal Regulation (CFR), chapter 40, section 51.371, defines on-road testing as “the measurement of HC, CO, NOx and/or CO2 emissions on any road or roadside in the nonattainment area or the I/M program area. On-road testing is required in enhanced I/M areas and is an option for basic I/M areas.”

The general requirements are:

(1) On-road testing is to be part of the emission testing system, but is to be a complement to testing otherwise required.

(2) On-road testing is not required in every season or on every vehicle but shall evaluate the emission performance of 0.5% of the subject fleet, including any vehicles that may be subject to the follow-up inspection provisions of paragraph (4) below, each inspection cycle.

(3) The on-road testing program shall provide information about the emission performance of in-use vehicles by measuring on-road emissions through the use of remote sensing devices or roadside pullovers including tailpipe emission testing. The program shall collect, analyze and report on-road sensing data.

(4) Owners of vehicles that have previously been through the normal periodic inspection and passed final retest and found to be high emitters shall be notified that the vehicles are required to pass an out-of-cycle follow-up inspection; notification may be by mailing in the case of remote sensing on-road testing or through immediate notification if roadside pullovers are used.

Although the Gateway Clean Air Program is an enhanced I/M program, the St. Louis moderate ozone non-attainment area[i] is only required to meet the basic I/M program performance standard. Therefore, while the Gateway Clean Air Program is collecting, analyzing and reporting on-road information (See section V.), owners of vehicles identified as high emitters have not, to date, been notified or required to bring their vehicle to an emission test station for an out-of-cycle test.

C. Sources of Data

Data used in the analyses in this report are primarily drawn from the RSD unit measurements, the database of vehicle registrations and the I/M test database maintained on ESP Missouri's host computer system.

The following sections describe the key information in the host computer system.

1. Remote Sensing Information

RSD Measurements:	RSD Unit, Date and Time, Vehicle Plate**,** HC, CO, CO2, NOx, speed and acceleration.
RSD Deployment:	Unit number, Date, Shift, Site.
RSD Sites:	Site Reference, Description of location, Slope of site in degrees.

[i] In 2002, the area succeeded in attaining the federal standard. On May 12, 2003, the area was officially redesignated by the EPA as a maintenance area for the one-hour ozone standard. The 10-year maintenance plan calls for the continuation of the enhanced vehicle emissions I/M program. For the purposes of this 2002 report, the area will be referred to as a nonattainment area. Future reports will refer to the area as a maintenance area.

2. Low Emitter Index

The low emitter index is a table indexed by vehicle model year, make and model. It contains estimates of failure rates and repairable emissions for each make/model based on the results of recent IM240 tests. It was initially developed using results from two million tests performed during 1999 in Colorado and Illinois. The low emitter index was updated in January 2002 using results from Missouri and Colorado tests performed in 2001.

3. Vehicle Registration Data

The vehicle registration table (VRR) contains information about each registered vehicle, including the unique vehicle identification number (VIN), the vehicle plate, make, model, model year, fuel type, owner name and address, zip code and county.

4. Gateway Clean Air Program Data

Several tables contain emissions test information:

- VDR – contains the valid remote sensing measurements for vehicles with Missouri plates.
- VMR – contains the RapidScreen mailer record that contains reference to the RSD measurements or LEI status that makes a vehicle eligible for RapidScreen.
- VTR – the primary repository for all emission test results, including records for vehicles that have completed the RapidScreen process. The VTR has links to the VMR tables. The VTR contains a result that indicates whether and by what method vehicles were RapidScreened. A RapidScreen status indicator identifies vehicles selected as part of the RapidScreen audit sample and the RapidScreening method used.

Remote sensing records are first stored in the VDR table. Each month, registration records for vehicles that are due to renew and are subject to the inspection program are identified. The VDR table is scanned to identify matching remote sensing records that are then analyzed to identify the vehicles that have qualified for RapidScreen. The registration and remote sensing information for qualifying vehicles is written to the VMR file. After quality control and quality assurance checks have been completed (See section III. C.), the VMR file is used to generate RapidScreen notices that are mailed to vehicle owners. If a vehicle owner chooses to redeem the notice, the RapidScreen result is recorded in the VTR table.

5. RapidScreen Random Audit Sample

Two percent of the vehicles that qualify for RapidScreen are randomly selected for the RapidScreen audit sample. These vehicles are not mailed RapidScreen notices and instead receive a station-based emissions inspection. As noted earlier, the results of the station inspections for RapidScreen audit sample vehicles are stored in the VTR table.

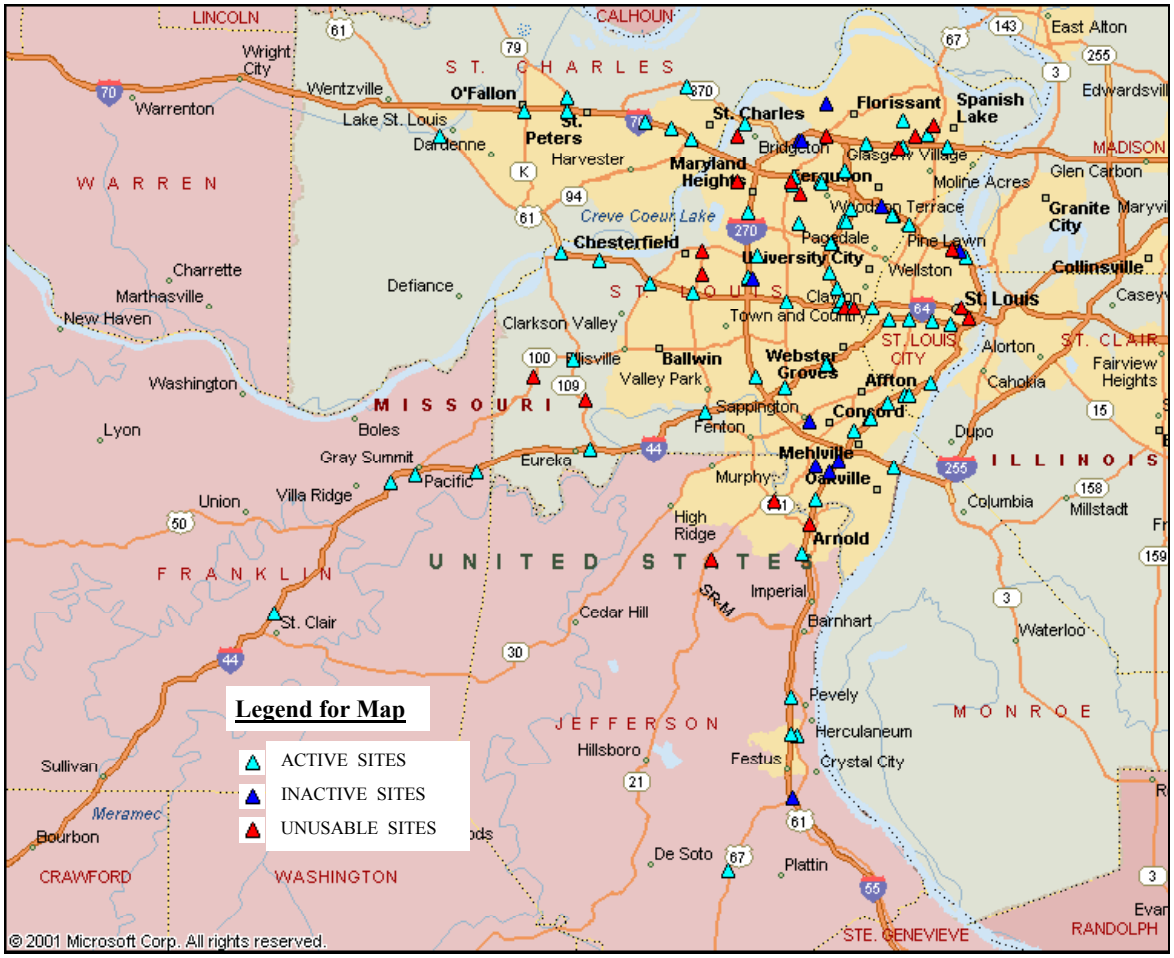
III. RapidScreen Operations

A. Monitoring Activities

1. Sites used

Seventy-one sites were used during the calendar year 2002 (See Appendix A1). A map showing the active sites is presented in Figure III-1. Information retained about each site includes the type of site, e.g. on-ramp or surface street, cross streets, city/county, township, zip code, slope. In Figure III-1, sites that are temporarily unusable because of construction in their vicinity or that were not used in 2002 are shown as inactive. Sites can be rendered permanently unsuitable for clean screening data collection operations by roadway alterations, e.g. the addition of a lane or a guardrail. In this case they are shown as unusable. The slope of a site combined with vehicle speed and acceleration is used to determine the specific power output of the vehicle engine at the time the remote sensing measure is made. At preferred sites, a majority of vehicles are operating with moderate engine power.

Figure III-1 RapidScreen Sites Used in 2002



Vehicle specific power (VSP)[4,5] is a useful measure of the vehicle load in kilowatts per metric ton (kW/t). The engine power output of a vehicle passing a remote sensing unit depends upon the grade of the site, the vehicle speed and the vehicle acceleration. The grade of the site is measured during the site selection process. Speed and acceleration are measured for each vehicle. Ideally, vehicles passing remote sensing units will have a VSP in the 3 to 22 kW/t range. Above and below these power levels, tailpipe concentrations can be significantly higher than normal. At low power levels, engines virtually shut down and yield only a small volume of tailpipe gas. This can result in significantly higher pollutant concentrations than when the engine is running normally even though the mass of pollutants is quite small. At high power levels, vehicles are likely to be operating in a commanded enriched fuel/air ratio. The Federal Test Procedure (FTP) used to certify new vehicles only simulates VSP levels of up to 22 kW/t. Above this level, vehicles are often designed to use enriched mixtures to obtain more power. In other words, at high power levels (enriched mixtures), tailpipe concentrations can be significantly higher than when the engine is running normally because the mass of pollutants is quite high.

For clean screening, the VSP range is important to the extent it may prevent a vehicle from being RapidScreened. Using measurements made when the vehicle is operating outside the range of engine conditions over which emissions are intended to be controlled may prevent the vehicle from meeting the clean screening cutpoints even though it is operating correctly.

For fleet evaluation and high emitter identification, it is useful to use remote sensing measurements that are within the range of engine operating conditions over which emissions are intended to be controlled.

2. RSD Units

The remote sensing units deployed in Missouri are RSD-3000 mobile units[i], also called AccuScan™. The design is based on a technical platform developed at the University of Denver by Dr. Donald Stedman. ESP engineers have commercialized this equipment and continue its development.

The mobile unit includes the equipment required to provide measurement of emissions as well as speed and acceleration readings and license plate software. Five main components comprise the RSD-3000 system:

- Infrared and ultraviolet source and detector modules;
- Video system;
- Control console with computer system;
- Laser-based speed and acceleration measurement system;
- License plate tag editing system.

[i] Since RapidScreen was introduced in Missouri ESP has developed an RSD-4000 model. The RSD-4000 is based on the same fundamental technology as the RSD-3000 but has greater sensitivity, uses less power and requires less frequent calibration. Currently there are no RSD-4000 units in Missouri because the technology in the RSD-3000 units meets all federal and state clean screening equipment requirements.

The primary combustion gases HC, CO and CO2 are measured simultaneously along the same optic path to ensure the proper application of the combustion gas equations. HC, CO and CO2 are measured using the infrared beam, and NOx is measured using the ultraviolet beam. To avoid interference between vehicles, the RSD-3000 unit is capable of completing the vehicle emission measurement within 0.6 second and all measurements for a vehicle including emissions, speed, acceleration and license plate image within one second.

The RSD unit takes multiple rapid readings for each vehicle to characterize the exhaust plume profile and evaluate whether a valid measurement of a vehicle's exhaust has been achieved. The criteria include how much vehicle exhaust plume is available for the duration of a 0.6 second sampling period, evaluation of whether plume measurements are consistent with normal plume dissipation, and correction for changes in background concentrations of emissions.

RSD units are certified to meet accurate measurement of calibration gas trailed by a specially-modified vehicle under controlled conditions using quad-blend (CO2, HC, CO, NOx) calibration gases. The RSD tolerance for each pollutant is:

- Hydrocarbon (HC): ±150 parts per million (ppm) or ±15% of the expected HC concentration {whichever is greater} throughout the range of HC concentrations. Hydrocarbon measurements are expressed in their hexane equivalent measurement.
- Carbon monoxide (CO): 0.25% CO or ±10% of the CO value {whichever is greater} throughout the range of CO concentrations.
- Oxides of nitrogen (NOx): ±250 parts per million (ppm) or ±15% of the expected NOx concentration {whichever is greater} throughout the range of NOx concentrations. Calibrations and calculations are for NO.

The mobile unit is equipped with a speed and acceleration measurement system that uses extremely accurate low energy lasers to calculate the speed of the vehicle to within +/- 0.5 mile per hour and acceleration to within +/- 0.3 miles per hour per second at the moment exhaust is measured.

The system captures emissions readings and rear pictures of vehicles that pass through the RSD beam. The video and emissions readings taken are stored directly on a removable media disk and can be used for future reference.

3. Number of Measurements

Table III-1 provides a monthly summary of the data collection statistics by record, dataset and shift. A calendar year summary is provided at the foot of the table. A dataset is a unique set of data collected by one RSD unit at one site on one day. The data may have been collected over either one or two shifts. The shift is a collection period of one remote sensing unit operated by one operator for a given shift period.

Water droplets in the air interfere with remote sensing operation. Remote sensing units are not operated in the rain and snow or when there is excessive spray from tires. Freezing weather can also cause water vapor in the tailpipe exhaust stream to rapidly condense into

mist and prevent remote sensing units from operating. The relatively low number of records collected in the winter months (January, February, March and December 2002) were due to the poor weather conditions described above that reduced the number of days of operation.

A total of over 4.9 million remote sensing records were collected during the calendar year 2002.

Table III-1 Summary of 2002 Data

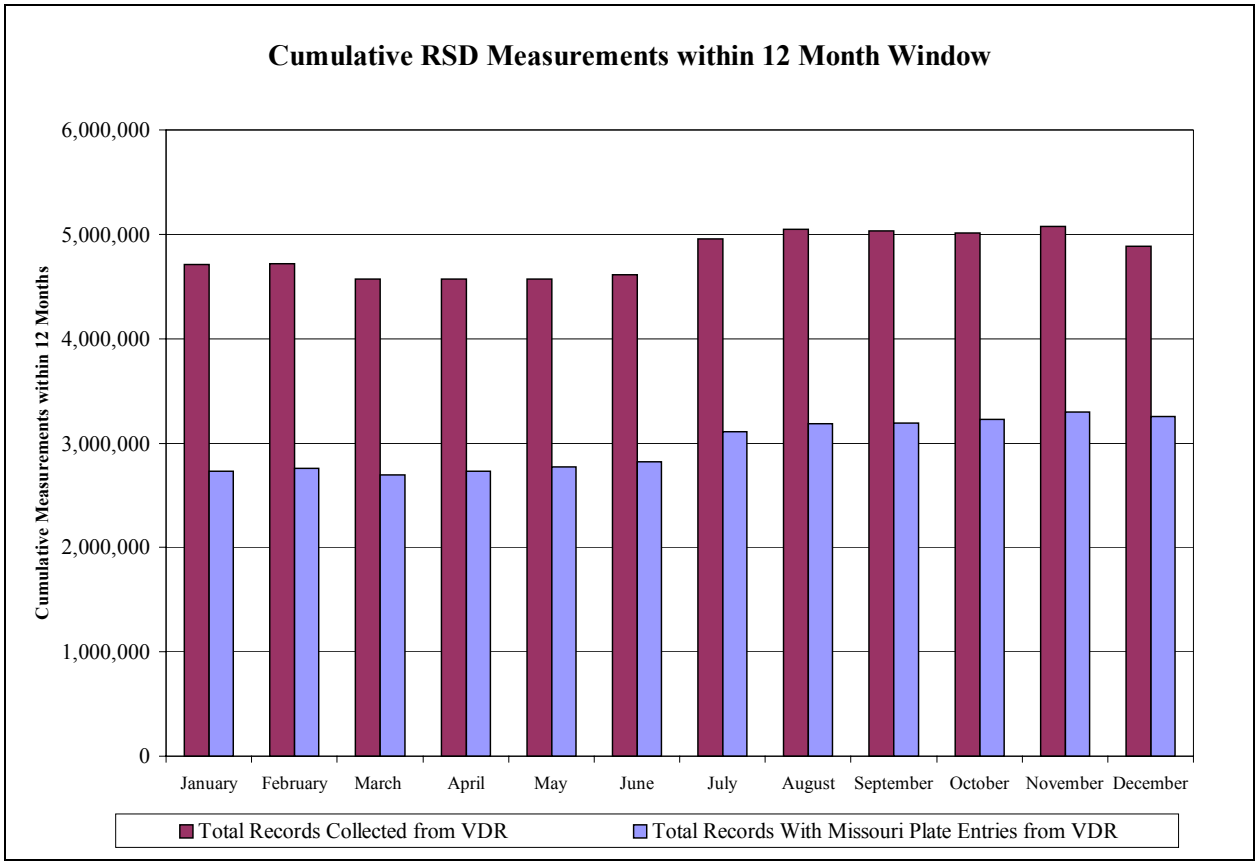
Year	Month	Avg. Units	Active Days	Total Datasets	Average Records Per Dataset	Shifts	Avg. Records Per Shift	Total Records	Valid Records	%Valid Records
2002	1	4.9	18	162	2,166	174	2,016	350,836	229,982	66%
2002	2	4.8	19	147	2,235	158	2,080	328,609	221,152	67%
2002	3	4.6	19	154	2,067	175	1,819	318,305	227,996	72%
2002	4	4.8	23	189	2,316	209	2,094	437,723	333,159	76%
2002	5	4.4	23	149	2,765	175	2,354	411,935	331,306	80%
2002	6	4.4	23	152	3,211	186	2,624	488,005	386,434	79%
2002	7	4.6	24	176	3,781	205	3,246	665,529	554,979	83%
2002	8	4.0	24	152	3,636	173	3,195	552,676	439,360	79%
2002	9	3.8	21	119	2,930	133	2,622	348,665	280,497	80%
2002	10	4.7	19	143	2,665	169	2,255	381,082	316,663	83%
2002	11	4.2	21	148	2,691	164	2,429	398,274	320,475	80%
2002	12	3.7	18	111	2,284	114	2,224	253,509	203,567	80%
TOTAL 2002			**252**	**1,802**	**32,746**	**2,035**	**2,425**	**4,935,148**	**3,845,570**	**78%**

The cumulative number of remote sensing records collected within a twelve-month period is shown by month in Figure III-2. The corresponding number of records with valid HC, CO, CO2, NOx, speed and acceleration measurements that have a Missouri plate entered are indicated by the shorter bars. While over 4.9 million on-road measurements were made in the January-December 2002 period, 65% (3.2 million) had Missouri plates entered and 56% (2.7 million) were matched to Missouri registrations. The difference between total records and those with Missouri plates is due to incomplete measurements (~20%), obscured plates (~4%), out-of-state plates (~10%), and special government plates not in the registration database (~1%). The difference between the plates entered and plates matched to registrations (~4%) is due to valid Missouri plates from out of the I/M area (i.e. from counties not in the nonattainment area) and transfer of ownership vehicles not in the registration database at the time of the match run. License plates are often transferred from one vehicle to another when a vehicle is transferred to a new owner. When vehicle registration records indicate such a change has taken place, remote sensing readings made prior to the plate change are flagged as being no longer valid for RapidScreening. The number of records per shift and the percentage of matched, valid records have improved significantly from 2001 to 2002 due improvements in training, equipment maintenance, site strategies, tag editing capabilities, and updating of the registration database.

According to the EPA Clean Screening Guidance document, remote sensing measurements must be gathered within twelve months of a vehicle's registration renewal date. Records collected more than twelve months previously are not used to make a clean screen determination. Therefore, for example, the last pair of bars in Figure III-2 shows the measurements made from Jan 1, 2002 through December 31, 2002.

Cumulative valid records with valid data and plate entries collected within twelve months remained relatively steady at 2.7 to 2.8 million records from January through June 2002 jumping to over 3 million in July and staying there through December (3.1 to 3.2 million records). The increase in valid records in the second half of the year is due to an increase in the number of records collected from May through September because of extended daylight hours of collection and better site scheduling. The cumulative valid record average for the year was 3.0 million.

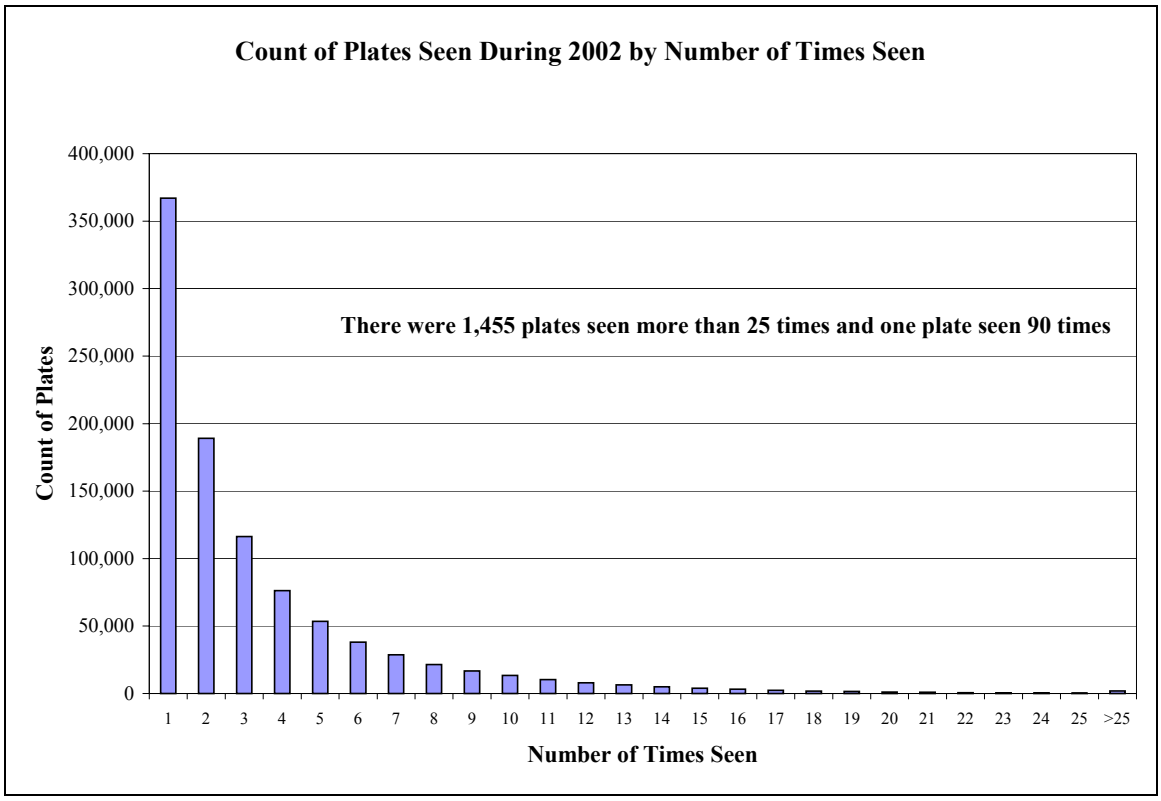
Figure III-2 Cumulative Remote Sensing Measurements



In many cases, the numbers stated above for total plates entered and matched represent multiple records for the same plate. Two clean records are needed for a clean screen exemption and one for a hybrid. The total number of unique plate records collected between January and December 2002 were 968,650, and the total number of unique matches were 757,942, or 78% of the total unique plates. Figure III-3 shows the distribution of plates seen by the number of times seen for collections in 2002. One plate was seen 90 times and 1,455

plates were seen more than 25 times. In 2002, 38% of plates were seen only once with 20% seen twice and the remaining 42% seen more than twice.

Figure III-3 License Plate Seen Histogram



4. Notices Issued and Redeemed

Figure III-4 shows the number of RapidScreen notices issued for vehicles by registration renewal month. Notices are prepared approximately a month and a half prior to the month in which the vehicle is due to renew. For example, notices for vehicles due to re-register in January 2002 were processed in November 2001.

Participation in the RapidScreen program is voluntary. A vehicle owner must choose to respond to a RapidScreen notice in order for a vehicle to complete the RapidScreen process. Vehicle owners who do not choose to respond to a RapidScreen notice must have their vehicles emission tested at a station. Figure III-5 compares the monthly number of RapidScreen notices issued with the monthly number of vehicles whose owners redeemed a RapidScreen notice.

The same numbers of notices issued and redeemed for the year are shown in Table III-2. The percentages of notices redeemed are 80% for the RSD method and 73% for the Hybrid method. Because Hybrid vehicles are seen less frequently on-road by RSD units and may have been seen longer ago, a greater proportion of these vehicles may have moved or

changed owner since they were last observed. This may explain the slightly lower redemption rate for Hybrid identified vehicles.

Figure III-4 RapidScreen Notices Issued by Registration Month

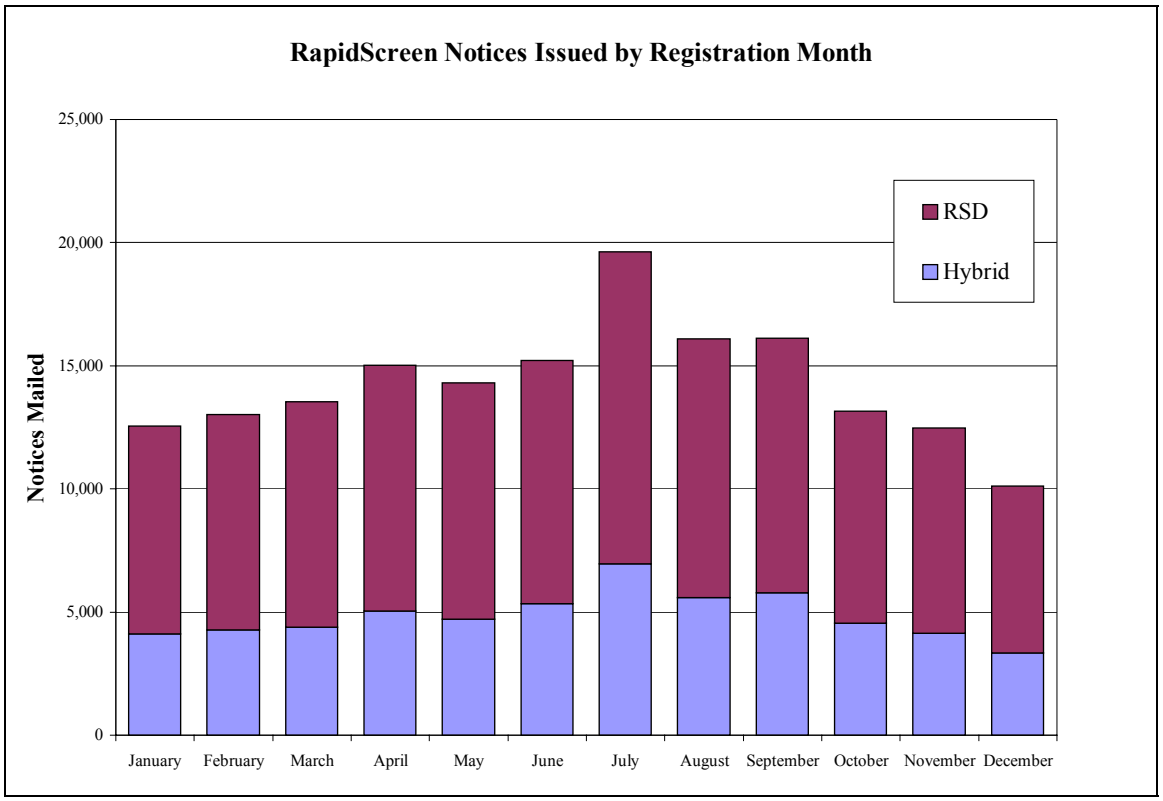


Figure III-5 RapidScreen Notices Issued and Redeemed

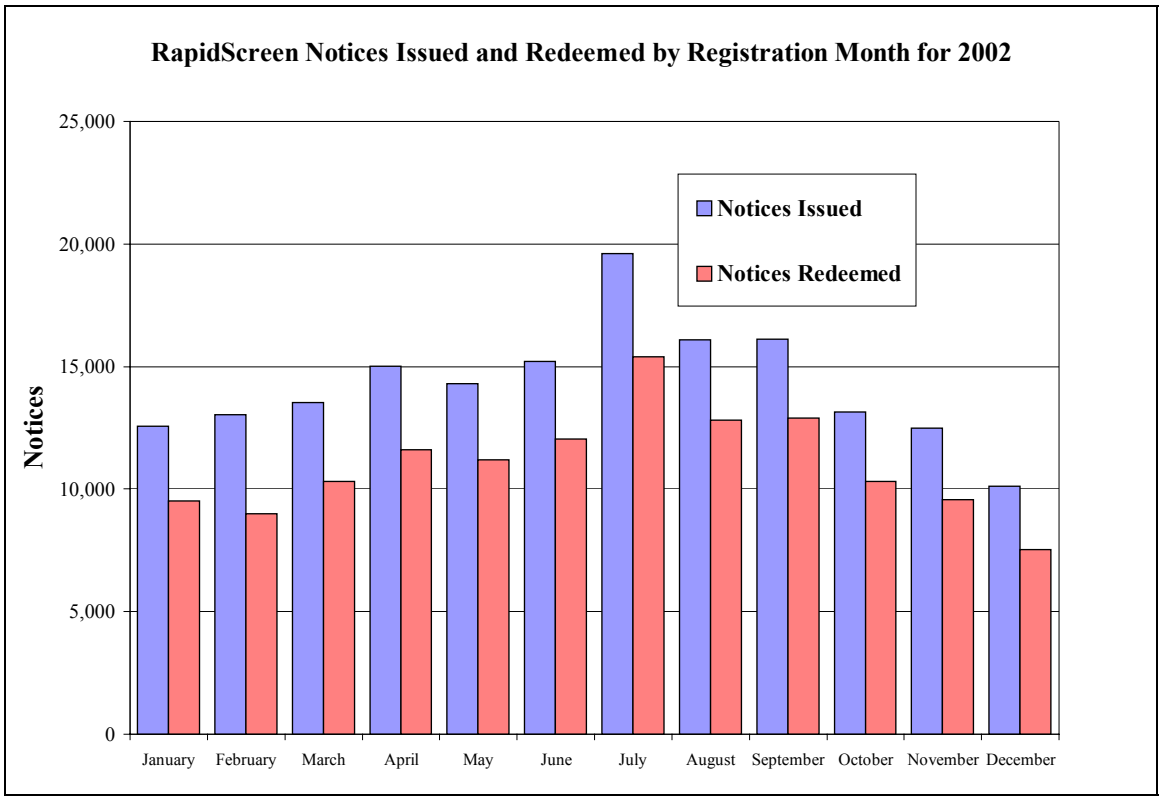


Table III-2 RapidScreen Notice Redemption Rate

	RSD	Hybrid	Total
Notices Issued for 2002 Registrations	112,950	58,297	**171,247**
Notices Redeemed for 2002 Registrations	90,948	42,658	**133,606**
Percentage Redemptions of Notices Mailed	81%	73%	**78%**

B. Distribution of Vehicles Clean Screened

1. RapidScreen Tests by Model Year

The distribution of initial tests by model year and type of emissions test or RapidScreen method is shown in Figure III-6. In the Enhanced I/M area, even model year vehicles are scheduled for testing in even years and odd model years in odd years. In the Basic I/M area, all vehicles are tested annually, regardless of model year but RapidScreen notices are only issued to even model year vehicles in even years and to odd model year vehicles in odd years. Therefore, the testing period being reported here, January through December 2002, contains a greater proportion of even model year vehicle tests.

Figure III-6 shows the frequency of each of the emissions tests conducted by the Gateway Clean Air Program. Two of the seven test types, RSD and Hybrid, are RapidScreening methods. All vehicles in both enhanced and basic areas are eligible to be RapidScreened.

Five of the seven test types, IM240, TSI, SSI-E, SSI-B and On Board Diagnostics (OBD II) are station-based test methods. IM240 tests are only performed on 1981 and newer model year vehicles in the Enhanced area. Two-speed idle tests (TSI) are only performed on 1981 and newer vehicles in the Enhanced area that cannot be IM240-tested. Single-speed idle tests are performed in the Enhanced area (SSI-E) on all 1971-1980 model year vehicles and on all vehicles, regardless of model year, in the Basic area (SSI-B). The OBD II test was initiated in December 2002; thus, this test type represents a fairly small percentage of tests for 2002. The percentage of OBD II tests will be much greater in future years. Also, it should be noted that during calendar year 2002, the 2001-2003 vehicles and odd model year vehicles were statutorily exempted from all emissions testing unless there was a change of ownership, so there are no RapidScreen redemptions in these model years.

The percentages of each model year vehicle for which RapidScreen notices were redeemed are shown in Figure III-7. A table showing the distribution of vehicles with redeemed notices by vehicle model year, make, and model is provided in Appendix A3.

The proportion of vehicles passing a RapidScreen test is greatest among the newest vehicle models. The newest vehicles have a higher probability of passing the RapidScreen vans and the RapidScreen cutpoints because they tend to be driven more miles each year (See section VII. B.), and are designed to run more cleanly than older vehicles. These factors increase the chance of newer vehicles qualifying for the RSD method RapidScreen notices. It should be noted, however, that even the pre-1981 vehicles had 25 RSD method RapidScreen redemptions, while there were no Hybrid notices for this range of model years. In other words, if an older vehicle is well maintained and driven past an RSD van, the owner can still receive a RapidScreen notice.

Figure III-6 Initial Tests by Model Year and Type of Test

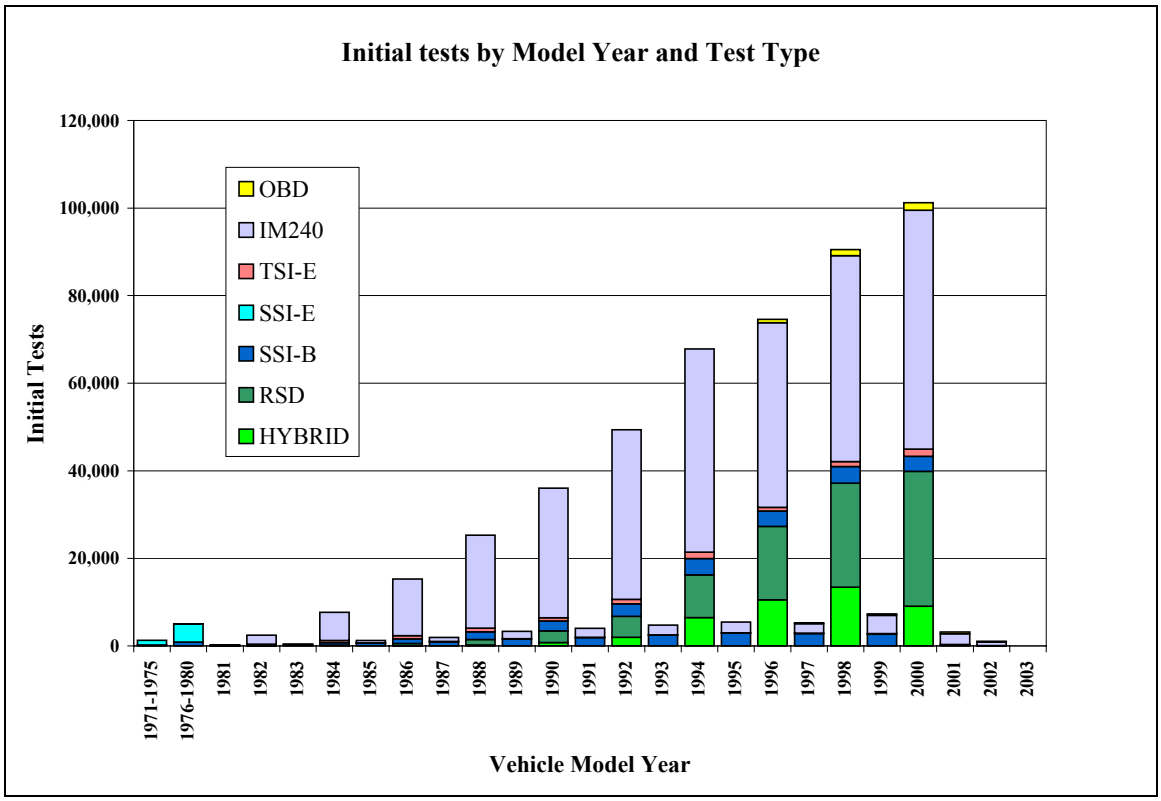
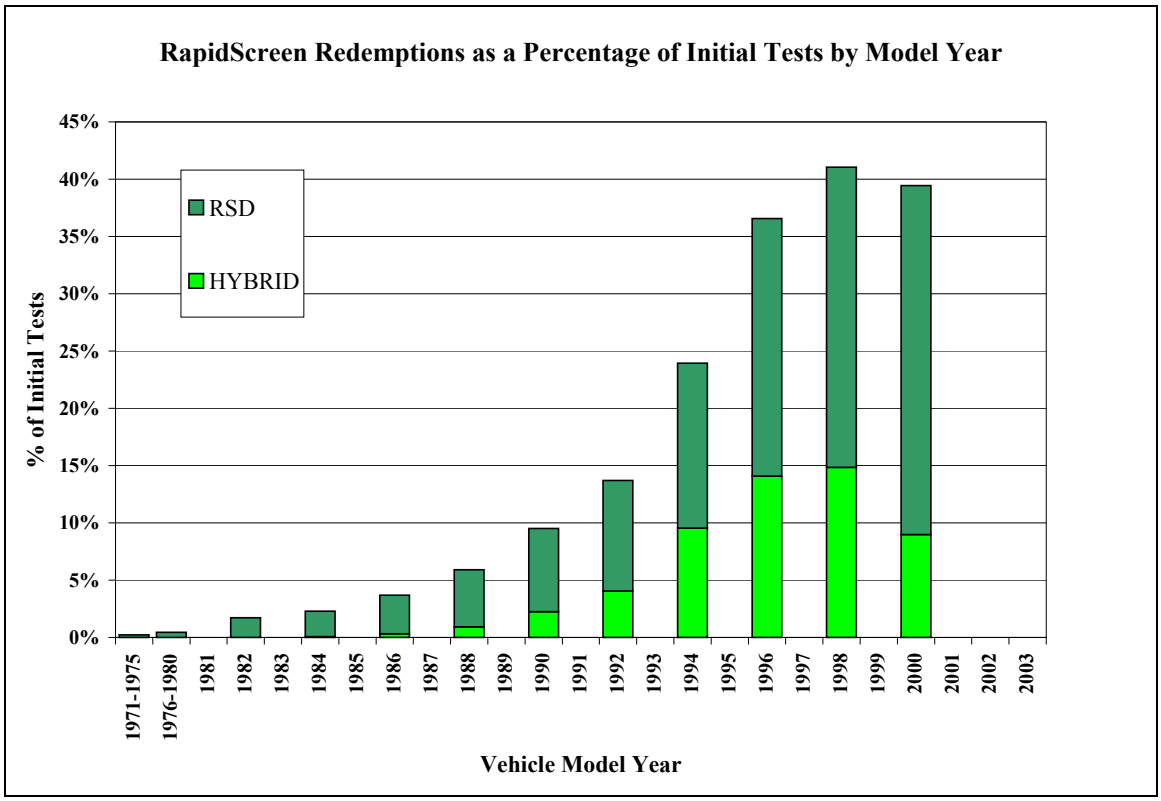


Figure III-7 RapidScreen Redemptions by Model Year and Test Method



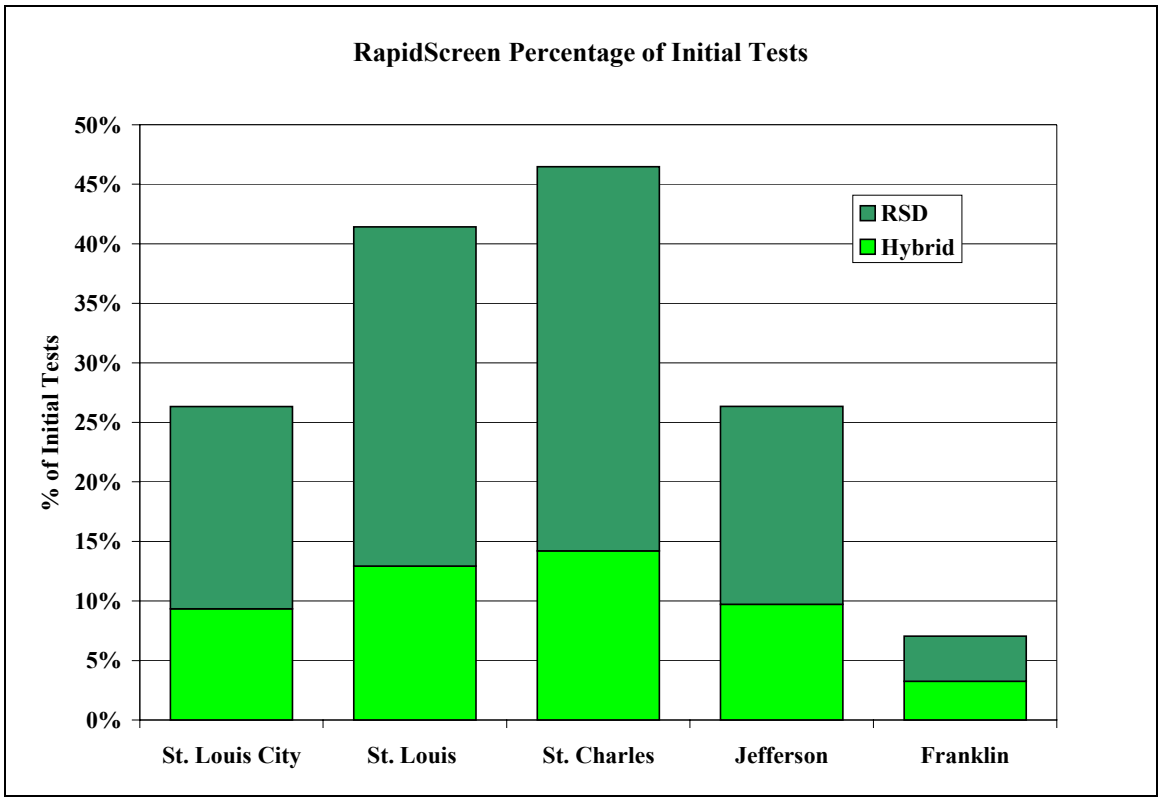
2. RapidScreen Tests Per County and ZIP Code

The percentage of vehicles in each county being RapidScreened with the RSD method depends upon a number of factors:

- The age distribution of vehicles in the county
- The population and traffic density in the county
- The availability of remote sensing sites in the county
- The frequency of RSD unit deployment in the county
- The motorist response rate to RapidScreen notices
- The frequency of the emission test requirement (annual or biennial) in the county

Figure III-8 shows the percentage of initial tests completed using RapidScreen by county. The percentage of RapidScreened vehicles shown for Franklin County has been multiplied by a factor of two to account for the biennial RapidScreen certificates vs. the annual basic test. A table showing the percentage of tests that were RapidScreen tests by ZIP code is provided in Appendix A2.

Figure III-8 Percentage of Tests that are RapidScreen in Each County



In 2002, RapidScreen data collection efforts were concentrated on St. Louis and St. Charles County sites. This concentration has mostly been a function of the availability of sites (See Figure III-1) that provide useable data on vehicles registered in all of the counties in the program. Efforts were made in 2002 to distribute the hours of collection among the counties to allow for even coverage in relation to registration percentages. However, the goal is to get measurements on the largest number of vehicles registered in all counties, which is not necessarily done by spending more time at specific sites in a particular county. For example, more Franklin County registered vehicles are seen per hour at two sites in St. Louis County than at either site in Franklin County.

C. Quality Control and Quality Assurance

ESP Missouri subcontracted Remote Sensing Air (RS≡A) to provide RSD data management and quality assurance functions for the RapidScreen program. Therefore, RS≡A has prepared the majority of this section of the RapidScreen Startup Report.

RapidScreen data management activities include:

- Ensuring that all datasets collected are tracked from collection through inclusion in the full database of records available for matching.
- Ensuring that all valid records have been tag edited.

- Ensuring that all datasets are properly transferred to the full database for matching.
- Archiving all raw data to digital video discs (DVDs) for ESP Missouri and MDNR.

The quality control (QC) and quality assurance (QA) procedures include:

- Checking for the presence of correct RSD unit calibration records.
- Training of tag editors.
- Quality control on tag editors.
- Quality assurance of the tag edit process through a 200 record per set audit sample.
- Quality assurance of the correct matching of vehicle images and RSD measurements to registration records through image verification of a 10% sample of vehicles that are being issued RapidScreen notices.

A complete list of RapidScreen data management, QC and QA activities is provided in Table III-3.

Table III-3 List of QC and QA Tasks and Responsibilities.

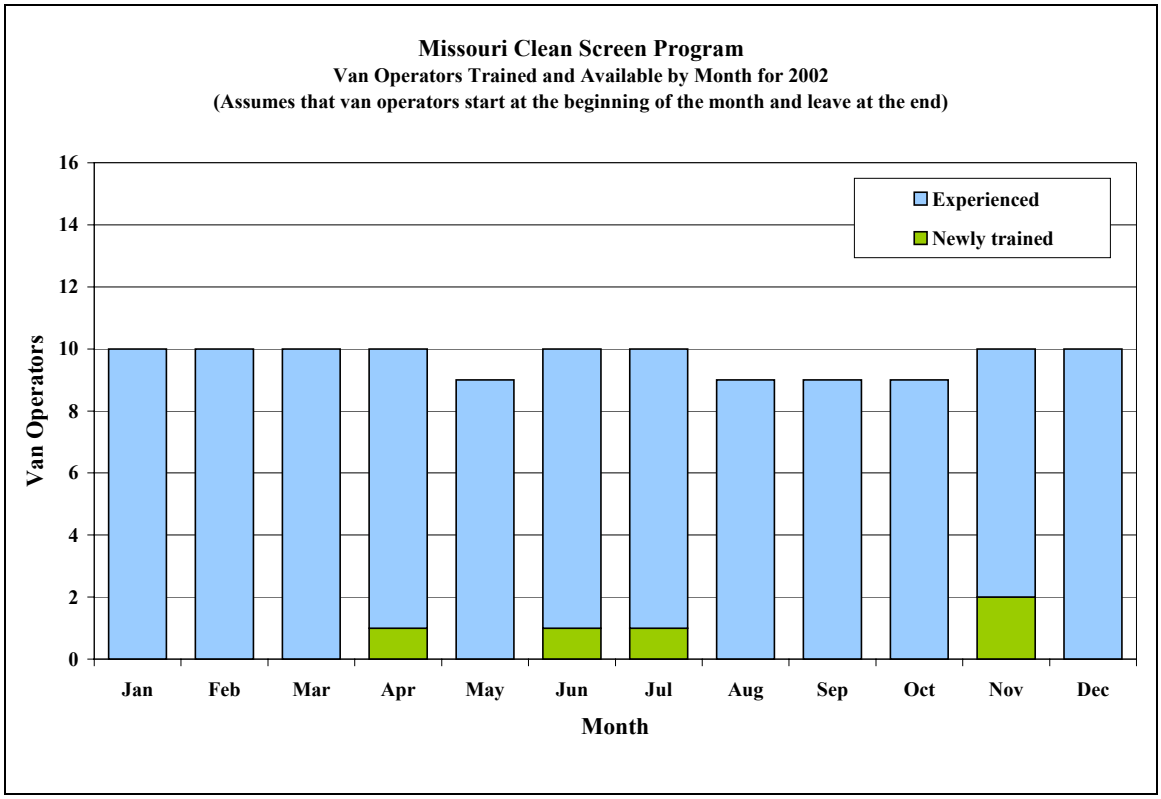
	Responsibilities		
Task	**Frequency**	**Company**	**Personnel**
Upload data from vans (must be done daily)	Daily	ESP	Lead Operator
Verify all files present (must be done daily)	Daily	ESP	Lead Operator
Check data recieved against expected schedule	Daily	ESP	Lead Operator
Check images for each folder for clearness and position	Daily	ESP	Lead Operator
Check cal gas values in log file against known values	Daily	ESP	Lead Operator
Enter RSD Daily Log Sheet Information into SDM check database	Daily	ESP	Lead Operator
Check pot settings against certification values	Daily	ESP	Lead Operator
Maintain & repair equipment & keep up database on these actions	Daily	ESP	Lead Operator
Create data tracking forms (DTF) and QA sheets	Daily	ESP	Tag Edit Manager
Enter DTF information into Data Tracking database	Daily	ESP	Tag Edit Manager
Create site statistics	Daily	ESP	Tag Edit Manager
Compare hit rate of new data to avg. for site	Daily	ESP	Tag Edit Manager
Assign data to tag editors & log in database	Daily	ESP	Tag Edit Manager
Track progess of tag editors	Daily	ESP	Tag Edit Manager
Log in tag edited files	Daily	ESP	Tag Edit Manager
Move completed folders to NEED QA	Daily	ESP	Tag Edit Manager
Give tag edited DTF forms to RSA Data Manager	Daily	ESP	Tag Edit Manager
Train tag editors	As needed	ESP	Tag Edit Manager
Run QC check on tag edited data & provide feedback to TEM	Daily	ESP	Tag Edit Manager
QA data	Daily	ESP	QA Auditor
Enter QA results into Data Tracking & QA/QC DB	Daily	ESP	Tag Edit Manager
Create revised text file and send it to To Database folder	Daily	ESP	Tag Edit Manager
Move folder from Needs QA to Copy to DVDs	Daily	RSA	Database Manager
Copy corresponding images to RSD Images	Daily	RSA	Database Manager
Copy files to DVDs & create logs for ESP and MDNR	Daily	RSA	Database Manager
Perform RSD Image QA for mailers	Monthly	RSA	Database Manager
Process audit data and create summaries for SDM performance	Monthly	RSA	Project Manager
Create reports on site statistics	Monthly	RSA	Project Manager
Evaluate the 2% of vehicles witheld from mailers and sent to IM	Monthly	RSA	Project Manager
Perfom site audits for each operator once per month & report	Monthly	RSA	Project Manager
Assist with new site selection	As needed	RSA	Project Manager
Prepare reports on QA, site statistics, and data flow	Monthly	RSA	Project Manager
Evaluate cut point choices for Clean Screen & Gross Emitter	Annually	RSA	Project Manager
Ensure that all tasks are being done efficiently	Daily	RSA	Project Manager
Assist in providing more efficient procdures	As needed	RSA	Project Manager
Assist in report design	As needed	RSA	Project Manager
Assist in modifications of ATP requirements	As needed	RSA	Project Manager

1. Training of Tag Editors

Each tag editor is provided a set of tag editing rules and photographs of various types of license plates. A short training session covering the rules and best ways to perform the tag editing is provided by the tag editing department. Then each tag editor is provided 500 records to tag edit. These 500 records are checked for errors, and the dataset is reviewed with the tag editor. The trainer explains the types of errors found and provides guidance to the tag editor for avoiding those errors. This process is repeated until the tag editor has fewer than 15 errors (3%). If at any point, a tag editor has an increase in error rate above 20 errors (4%), the dataset is 100% checked, and the tag editor is required to review the types of errors found.

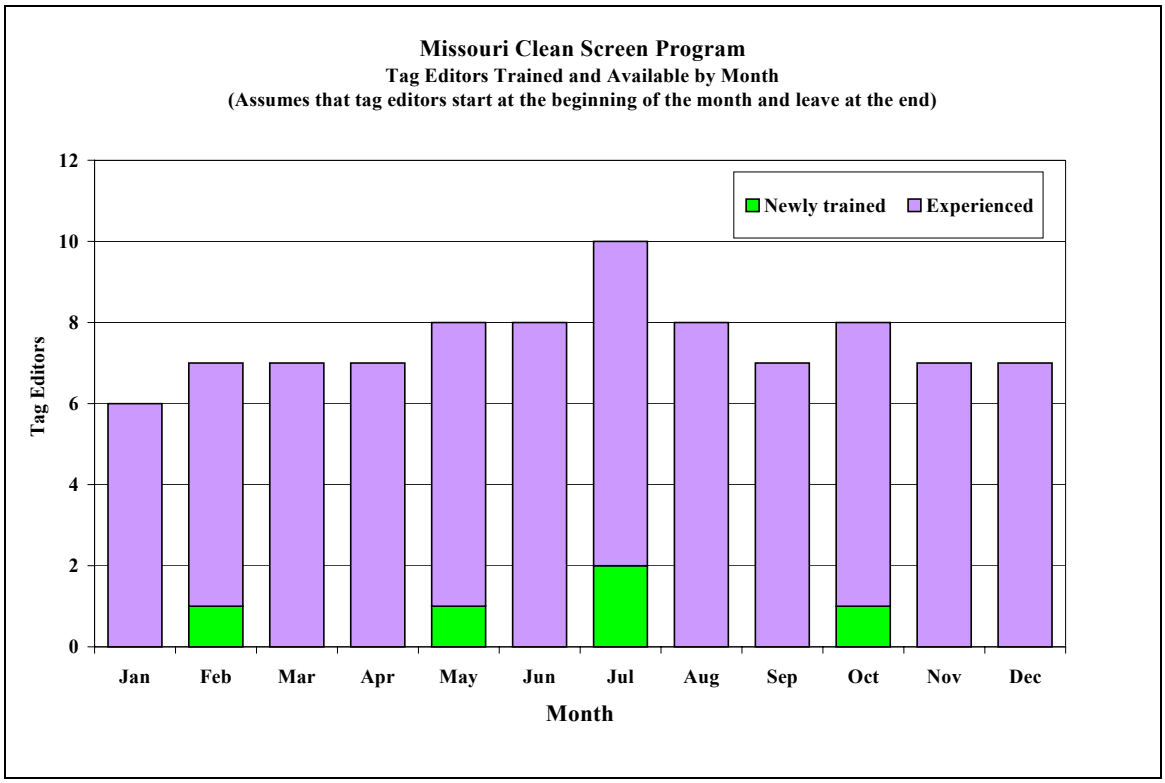
The numbers of trained and experienced van operators and tag editors are presented in Figures III-9 and III-10. In 2002, the number of van operators stayed at 10 except for parts of the months of May, August, September and October.

Figure III-9 Van Operators Trained and Experienced by Month



In 2002, ESP used the expertise and labor pool available in the St. Louis area to support tag editing for RapidScreen and other ESP remote sensing projects. This resulted in an increase in the head count of tag editors employed on RapidScreen tag editing during the summer. A decrease in the amount of data needing to be tag edited as well as the use of the van operators for tag editing in the RSD vans resulted in the number of tag editors returning to previous levels by the end of the year.

Figure III-10 Tag Editors Trained and Experienced by Month



2. Quality Control on Tag Editors

Quality control of tag editors provides the trainers with an understanding of the performance of each tag editor and the opportunity to give their tag editors additional training as necessary. Each tag editor undergoes 100% QC on all records tag edited until their error rate falls below 3%. After this time, the routine QA on each dataset (See section III. C. 4.) is used to verify the error rates for each tag editor. If the error rate goes above 4%, then the dataset goes through a 100% QC check, the tag editor reviews the errors made, and the trainer gives the tag editor guidance on how to avoid the problems exhibited. Most tag editors stay below the 3% error rate for their period of tag editing (generally below 1%). During QC checking, all errors found are corrected in the dataset to ensure as accurate a database as possible.

An RSD dataset from one RSD unit is typically divided into several parts that are individually assigned to a tag editor. Each part of the RSD dataset is called a tag edit dataset. The number of tag edit datasets and records requiring QC are provided in Table III-4 by month. In some months, no tag edit datasets required 100% QC.

New tag editors brought on in June initially had higher error rates (See Table III-4) but the overall percentage of datasets requiring QC for the year (0.8%) was lower than in 2001 (1.2%) and much lower than the startup period (5.3%).

Table III-4 Monthly Summary of QC on Tag Editors

Collect Month	Actual Records Tag Edited	Average Records Per Tag Edit Dataset	Number of Tag Edit Datasets	Number of Records QC Checked	Number of Datasets Needing QC	Percent of Datasets Needing QC
2002 01	109,488	1,441	76	0	0	0.0%
2002 02	161,223	1,662	97	13,020	8	8.2%
2002 03	164,712	1,734	95	779	1	1.1%
2002 04	203,774	1,904	107	2,282	1	0.9%
2002 05	206,181	2,170	95	5,788	1	1.1%
2002 06	230,013	2,371	97	0	0	0.0%
2002 07	281,926	3,661	77	0	0	0.0%
2002 08	623,788	4,077	153	0	0	0.0%
2002 09	357,481	3,405	105	0	0	0.0%
2002 10	282,236	3,101	91	0	0	0.0%
2002 11	658,993	3,414	193	0	0	0.0%
2002 12	689,028	2,907	237	0	0	0.0%
TOTAL 2002	**3,968,843**	**2,789**	**1,423**	**21,869**	**11**	**0.8%**

3. Quality Control on Tag Edit Datasets

When a tag editor completes a particular tag edit dataset, all of the records are checked for errors using specific queries. In this way, common errors, such as inclusion of improper symbols or spaces, inappropriate number of characters, or inappropriate combinations of data field contents, are found and corrected before the final QA is performed (See section III. C. 4). This QC process ensures that the VDR table contains accurate information. The numbers and types of errors are tracked so that each tag editor knows the types of errors being made and how best to avoid such errors.

Table III-5 shows the total and average number of these common errors found each month through this QC process. This query review of 100% of the data for the month takes little actual time and is a worthwhile step because, although the average percentage of errors found is small (0.07%), the average number of errors found (216) is greater than the average number of errors found during the QA process (172) (See Table III-6). The error rate for 2002 of 0.07% is half the rate reported for the startup period (1.16%) and slightly less than for 2001 (0.08%).

Table III-5 Monthly Summary of QC on Tag Edited Datasets

Month	Actual Records Tag Edited	Errors Found	% Errors by Month
2002 01	109,488	155	0.14%
2002 02	161,223	107	0.07%
2002 03	164,712	100	0.06%
2002 04	203,774	101	0.05%
2002 05	206,181	143	0.07%
2002 06	230,013	119	0.05%
2002 07	281,926	194	0.07%
2002 08	623,788	412	0.07%
2002 09	357,481	245	0.07%
2002 10	282,236	260	0.09%
2002 11	658,993	481	0.07%
2002 12	689,028	269	0.04%
TOTAL	**3,968,843**	**2586**	**0.07%**
Average	***330,737***	***216***	***0.07%***

4. Quality Assurance on Tag Edit Datasets

Quality assurance of the datasets provides information on the accuracy of the VDR table used for RapidScreen image and registration matching. Each tag-edited dataset has 200 valid records from 4 record bins checked. Each dataset is divided into four equal parts. A random number is chosen from the first quarter of data and a range of 200 records from that quarter is visually checked. The process is repeated for each subsequent quarter using the same random number added to the first record of each bin. It was determined after looking at the QA data from 2000 and 2001 that this procedure provided equivalent or better determination of the accuracy of a set because of the similarity of percentage errors for large sets using both the 10% and 200 record methods.

In July 2000, the tag edit program was modified to only allow the tag editing of records with valid HC, CO, NOx, and CO2 measurements. Since then, the QA checks have been performed only on the tag edited records. This process has resulted in the checking of an average of 6% of all tag edited records. The percentage will be higher for small datasets and smaller for large sets.

If the number of errors found exceeds 4% for any tag editor, then the dataset undergoes 100% QC check on the records for the tag editor (See section III. C. 3.). If there is a specific type of error that can be checked, then only those records with that type of error are checked. After a 100% QC check, the dataset undergoes a second 200 record QA check using a different set of random records to provide the actual quality of the final data in the VDR table.

Table III-6 provides a summary of the QA results by month. The average QA error rate for the VDR table is 0.91% (>99% accuracy). The actual final quality of the tag-edited datasets in the VDR table will be higher than that reported since all errors found during the QA process are corrected. The increased error rate for December (1.54%) was due to the addition of the van operators to the tag editor pool. Excluding this month, the average 2002 error rate (0.75%) is comparable to the average 2001 error rate (0.73%).

Tag edit errors create incorrect license plate numbers that may not match any vehicle registered in the Gateway Clean Air Program area. When remote sensing measurement records in the VDR table containing these errors are compared to registrations to obtain vehicle information, these records with plates that do not match any vehicle subject to the program are discarded. Therefore, not all of the 0.91% of tag editing errors are carried forward to the RapidScreen notice generation process.

Table III-6 Monthly Summary of QA on Tag Edited Datasets

Collect Month	Actual Records Tag Edited	Number of Records QA Checked	Percent Records QA Checked	Errors Found	Percent Errors by Month
2002 01	109,488	9,908	9%	97	0.98%
2002 02	161,223	13,173	8%	102	0.77%
2002 03	164,712	12,107	7%	85	0.70%
2002 04	203,774	16,292	8%	122	0.75%
2002 05	206,181	14,514	7%	131	0.90%
2002 06	230,013	13,890	6%	101	0.73%
2002 07	281,926	12,560	4%	113	0.90%
2002 08	623,788	25,379	4%	188	0.74%
2002 09	357,481	16,946	5%	118	0.70%
2002 10	282,236	14,349	5%	117	0.82%
2002 11	658,993	31,896	5%	178	0.56%
2002 12	689,028	46,016	7%	708	1.54%
TOTAL	**3,968,843**	**227,030**	**6%**	**2,060**	**0.91%**
Average	***330,737***	***18,919***	***6%***	***172***	***0.91%***

5. Quality Assurance on VMR Images

Each month, vehicle mailing records (VMRs) are created for vehicles that qualify for RapidScreen and are due to renew their registration. This is the first step in creating and mailing monthly RapidScreen notices. RSD image quality assurance verifies that the license plate images of the two qualifying remote sensing records match each other and match the vehicle identified by the MDOR registration information. This QA process is performed for

each monthly set of data in the VMR table that is used to generate the RapidScreen notices. A program written by ESP is used to QA a random 10% of the RapidScreen notices. There are four choices when checking the images:

- P (Pass) – both RSD images are the same and match the registration data for that record.
- R (Fail) – both RSD images match each other but do not match the registration database. This is generally due to a time lag in ownership and the MDOR database, but the vehicle cannot be passed since the vehicle does not match the registration.
- DO (Fail) – both RSD images do not match each other. This may be due to the same plate being used for different vehicles, or a change in ownership of the vehicle/plate between the time of the collection of the image and the data in the MDOR database.
- DTE (Fail) – both RSD images do not match each other. This is due to a tag edit error.

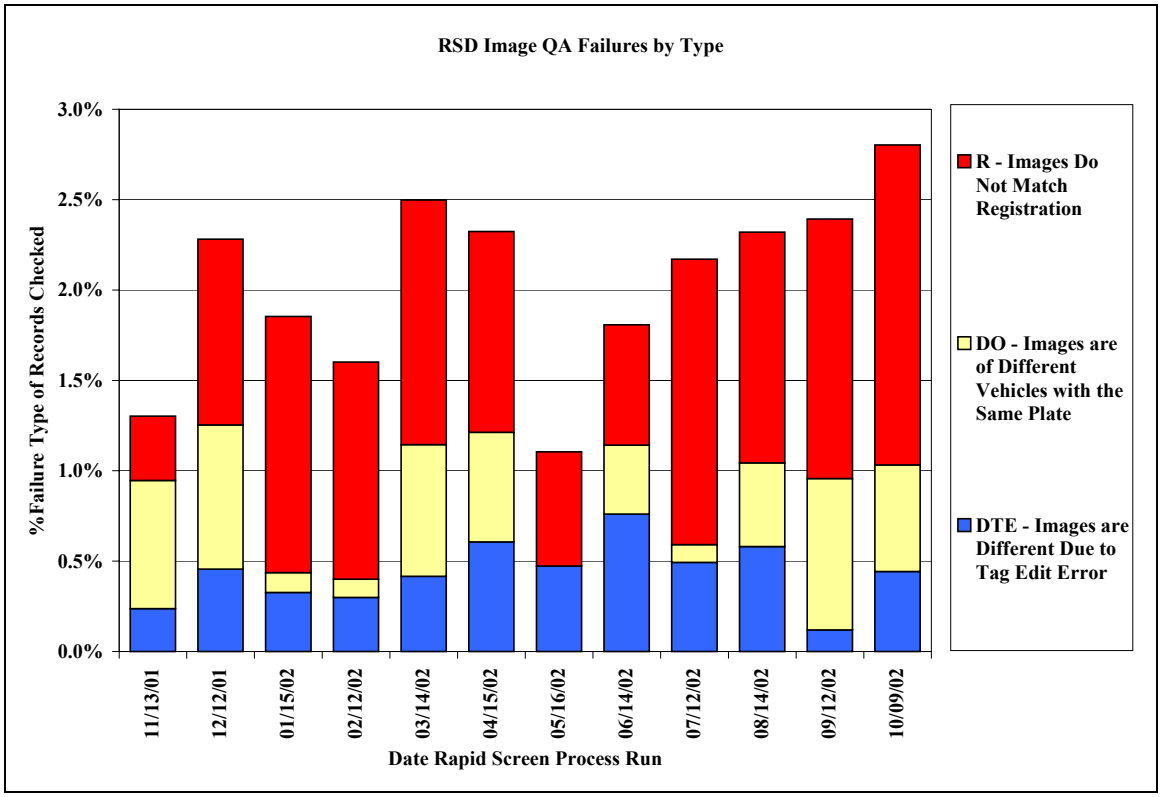
Table III-7 provides a summary of the VMR image matching failure rate for each registration month and overall. The average failure rate of VMR image matching is 2.1%. The majority of these failures (1.7%) appear to be due to time lags in the MDOR database (R and DO image matching failure types). The average QA rate of failures in the VMR table due to tag edit errors is 0.4%, which is lower than the average QA error rate of the tag edited datasets in the VDR table (0.9%) (See Table III-6).

Figure III-11 details the types of image matching failures as a percent of the total number of VMR images checked.

Table III-7 Monthly Summary of QA on VMR Images

Date Process Run	Registration Due (2002)	RSD Records Matched	RSD Records QA'd	RSD Image Fail for All Reasons	%RSD Images Fail	RSD Image Fail Due to TE Error	%RSD Fail Due to TE Error
11/13/01	January	8,627	845	13	1.5%	2	0.24%
12/12/01	February	8,948	877	23	2.6%	4	0.46%
01/15/02	March	9,358	917	17	1.9%	3	0.33%
02/12/02	April	10,189	999	16	1.6%	3	0.30%
03/14/02	May	9,804	961	20	2.1%	4	0.42%
04/15/02	June	10,102	990	23	2.3%	6	0.61%
05/16/02	July	12,928	1,267	25	2.0%	6	0.47%
06/14/02	August	10,726	1,051	19	1.8%	8	0.76%
07/12/02	Sepetember	10,567	1,014	22	2.2%	5	0.49%
08/14/02	October	8,800	862	20	2.3%	5	0.58%
09/12/02	November	8,537	836	20	2.4%	1	0.12%
10/09/02	December	6,925	678	19	2.8%	3	0.44%
TOTAL		**115,511**	**11,297**	**237**	**2.1%**	**50**	**0.44%**
Average per month		***9,626***	***941***	***20***	***2.1%***	***4***	***0.44%***

Figure III-11 VMR Image Matching Failure Types



6. Dry Gas Puff Audits of RSD Units

Starting in October of 2001, Dry Gas Puff Audits were performed on the AccuScan™ Source and Detector Modules (SDM) (See Figure II-1) with MDNR oversight. These procedures were documented and provided to the MDNR in February 2002 as *AccuScan™ Quality Assurance Test Procedures for the Missouri Clean Screen Program*, ESP-MAN1100, Version 2.0. The primary audit procedure is a Dry Gas Puff Audit that is used to verify the functioning of the AccuScan™ SDM units within ESP certified tolerances.

The Dry Gas Puff Audits were performed monthly on all units present in Missouri (some units were in Tucson for annual preventative maintenance during scheduled puff audits). A description of this type of audit and the results for 2002 are summarized below.

The Dry Gas Puff Audits are performed using four different blends of the four test gases - CO, CO2, HC (as propane), and NOx (as NO). Gas blend values used for the audits are shown in Table III-8. In order for an SDM module to pass the audit, all four gas blends must be within the tolerances listed in Table III-9 for five sequential puffs/runs. For Dry Gas Puff Audits if there is a failure with an initial test with one or two points out, the test is repeated with no changes to the setup or calibration to see if there was a random ambient gas issue. If the second test fails, the system is cleaned (if necessary), realigned, re-calibrated and re-tested. If the third test fails, then the SDM module is taken out of service and checked out at ESP Missouri Headquarters and re-tested to pass before being put back in service. Each cylinder is tested sequentially by attaching the cylinder gas directly into the SDM unit through the calibration port on the outside of the SDM and puffing the gas into the SDM as is done with the calibration gas. The on-site Dry Gas Puff Audit allows an evaluation of SDM unit's functionality under real-world collection conditions (beam path, equipment setup, and site conditions) without emitting large amounts of gas into the atmosphere.

Table III-8 Recommended Gas Blends for Dry Gas Audits

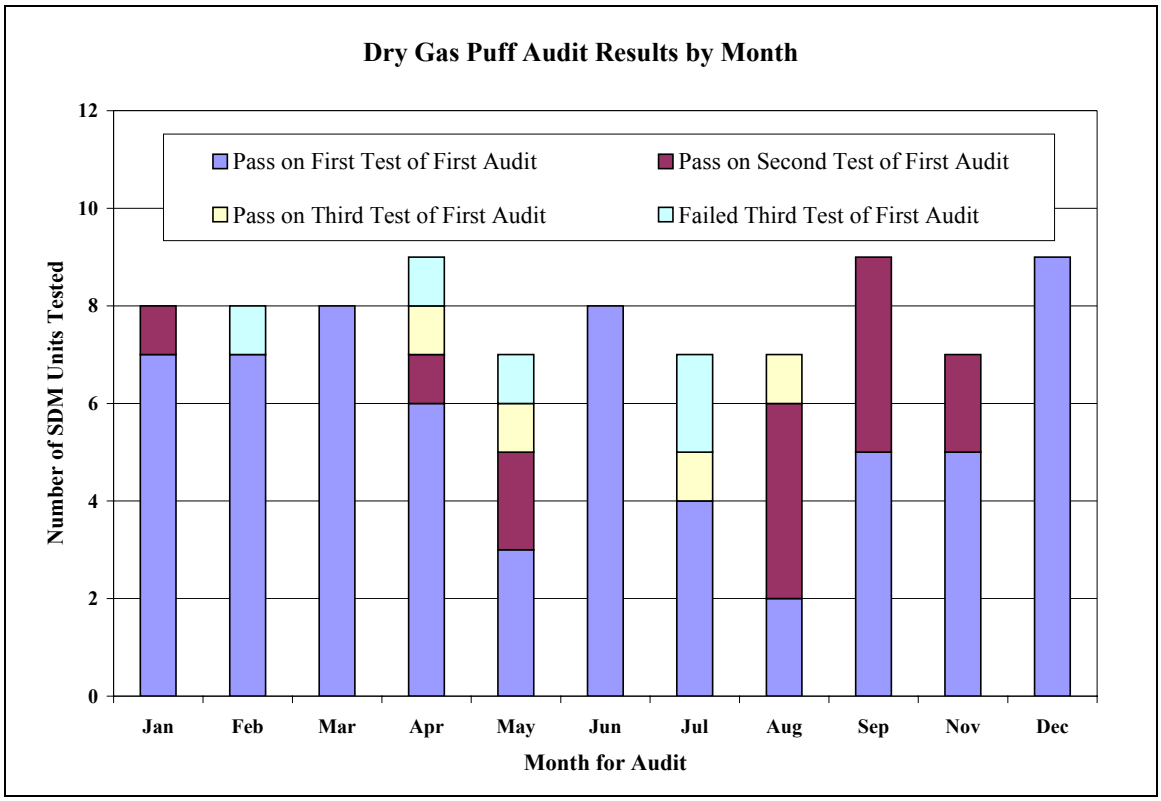
Cylinder Designator	CO %	HC ppm	NOx ppm	CO_2 %
1	0.2	50	2000	15
2	0.3	100	1000	15
3	0.5	200	500	14
4	3.0	1500	1500	13

Table III-9 ESP Tolerances for AccuScan™ Measurements for Dry Gas Audits

Test Gas	Tolerances Using Dry Gas (from 20 to 120 deg F)
CO	±0.25% CO or ±10% of reading, whichever is larger
CO2	±0.25% CO2 or ±10% of reading, whichever is larger
HC	±150 ppm as hexane or ±10% of reading, whichever is larger
NOx	±250 ppm as NO or ±10% of reading, whichever is larger

Results of the monthly Dry Gas Puff Audits are shown in Figure III-12. There are a total of ten SDM units available for the Missouri RapidScreen program. There are usually 5 units in service in the vans with 2 to 4 spare units and 1 to 3 units in Tucson for maintenance. All in-service and spare SDM units (7 to 9) are Dry Gas Puff audited each month. Of the 87 SDM unit audits conducted in 2002, 82 (94%) passed the first test or a second test without changes to the setup, alignment, cleaning or calibration. Five (6%) failed a full audit of three tests. One failed a second audit, and it was sent back to Tucson. The other four units were cleaned or repaired at ESP Missouri Headquarters, re-audited and put back into service. The modules that failed the first audit test usually had only one or two points out of 60 slightly high for CO or NOx. About 5 percent of the audits required that the SDM unit be cleaned, realigned or re-calibrated before passing the test. No SDM units failed an audit after July 2002. In December 2002, there were two failed audits at the headquarters due to a problem not related to actual collections; these two audits were removed from this analysis. Note that there were no Dry Gas Puff Audits in October except for those directly related to the Dry Gas Truck Audits.

Figure III-12 Summary of Dry Gas Puff Audit Results for 2002



7. Dry Gas Truck Audits of RSD Units

The Dry Gas Truck Audits are performed twice a year (May and October 2002) using individual gas cylinders configured to release a "mock" vehicle exhaust plume behind the truck as the truck is driven at a known speed and acceleration through the beam path. The Dry Gas Truck Audit used only blends 1, 2 and 3 from Table III-8. The actual exhaust of the audit truck is removed from the testing sample by means of a diversion pipe sealed at its connection to the truck exhaust pipe using high temperature-resistant Teflon™ gaskets. The Dry Gas Truck Audit allows evaluation of the SDM unit's ability to detect plumes released in the beam path, similar to that of an actual vehicle. An important difference between the audit truck plume and actual vehicle plume is the fact that the audit truck has a dry gas plume while the actual vehicle plume has moisture. The dry gas plume dissipates more quickly. Because the gas plume is not enclosed as with the Dry Gas Puff Audit, significantly more gas must be used provide detectable levels similar to those of an actual vehicle for the Dry Gas Truck Audits. If an SDM unit fails a Dry Gas Truck Audit, it will be re-audited using the Dry Gas Puff Audit following the procedures above. If the results of the Dry Gas Puff Audit do not match the results of the Dry Gas Truck Audit, the Dry Gas Puff Audit results will override the Dry Gas Truck Audit.

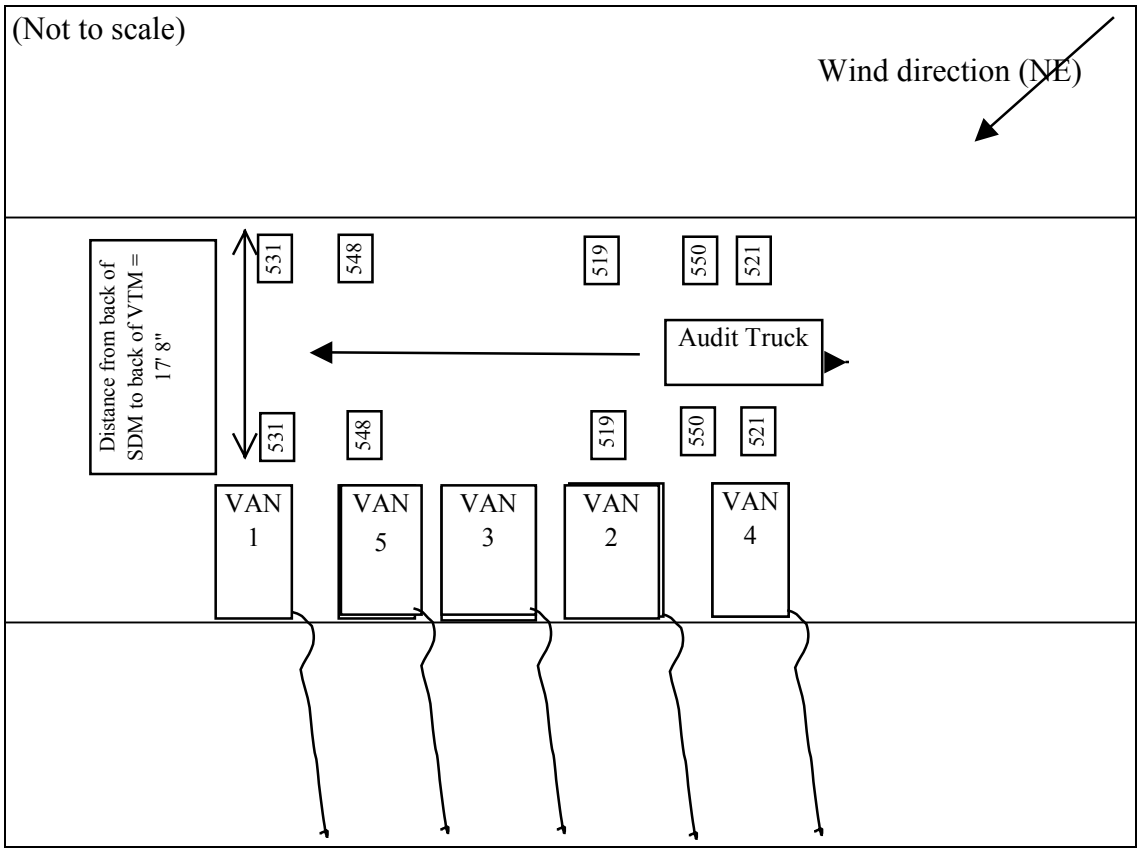
In order not to emit more gas than necessary, the Dry Gas Truck Audits are performed on 4 to 5 RSD SDM units simultaneously. The five vans and units are set up in a row in a parking lot with the lateral transfer mirrors placed approximately 17 feet away from the SDM units (see Figure III-13).

In May 2002, the first Dry Gas Truck Audits were performed in the parking lot behind the ESP Missouri Headquarters. Two SDM units were in Tucson for annual maintenance, and one unit needed repair. As a result, auditing was attempted on seven units. One had high noise levels due to the uninterruptible power supply (UPS), and all but one of the remaining units failed to meet all the audit criteria.

The predominantly failing results of the first Dry Gas Truck Audit were indicative of an audit test procedure that had been biased by intervening factors. The MDNR oversight personnel agreed with ESP Missouri personnel that there may have been interference due to the close space of the audit's parking lot. There are buildings to the south and east of the parking lot, and there were both parked and moving vehicles in the lot during the tests. These conditions tend to increase the probability of a build up of gases released from the audit truck as well as interference from vehicles in the parking lot. All modules that failed the truck audit were subsequently audited with the Dry Gas Puff Audit and passed before being put back into service.

In October 2002, the Dry Gas Truck Audits were performed in a large, open parking lot. There was rain in the morning prior to the truck audit beginning, so the pavement was not completely dry and the humidity was high. There were no progressive errors observed in the October truck audits, suggesting that the close space at ESP Missouri Headquarters' parking lot was the cause of the May truck audit interference. The high humidity in the morning most likely affected the morning audit results, which had a lower pass rate than the afternoon audits. There were problems with a few NOx points being high. Tests with varying calibration gas blends are being performed in Tucson to try to reduce these issues. The results of these tests will be reported in 2003.

Figure III-13 October 2002 Set Up of RSD Vans, SDM Units, and Lateral Transfer Mirrors for Dry Gas Truck Audits



IV. RapidScreen Program Emissions Performance

A. RapidScreen Audit Sample

A random sample of two percent of vehicles meeting RapidScreen criteria are not mailed notices. Instead of being RapidScreened, these vehicles are brought to a test station to obtain the station-based emission inspection. This random sample of vehicles is used to evaluate the effectiveness of the RapidScreen program.

The number of RapidScreen tests and audit vehicle tests is shown in Table IV-1.

Table IV-1 RapidScreen Audit

Type	Tests	Audits	%
RSD	90,948	1,983	2.2%
Hybrid	42,658	1,147	2.7%
Total	133,606	3,130	2.3%

Audit vehicles are selected by picking the first two out of each hundred vehicles in the VMR table. The actual percentage of audit vehicles is higher than 2% because not all owners of the remaining 98 out of each 100 eligible vehicles respond to their RapidScreen notices. Only those vehicles whose owners respond to the RapidScreen notices are shown in the Tests column of Table IV-1. The data in the Audits column of Table IV-1 represent the actual number of audit sample vehicles eligible for RapidScreening, not sent RapidScreen notices, and therefore tested at a test station.

B. RapidScreen Program Effectiveness

The reporting requirement to make a comparison of the remote sensing records, vehicle profile or model year compared with the actual emissions testing records of the random sample has been interpreted in this RapidScreen Report as an evaluation of the emissions reductions that were obtained by station testing of the audit sample. The effectiveness of the RapidScreen program is then estimated by projecting the result for the random audit sample to all vehicles that were RapidScreened.

1. Pass / Fail Statistics

The results of the emissions inspections of the RapidScreen audit vehicles are shown in Table IV-2. The table shows the number of audit vehicles receiving each type of tailpipe test. The Gateway Clean Air Program uses four test types at the test stations. These test types were described in section III. B. 1. and are abbreviated in Table IV-2 as follows:

- 6 – Enhanced area biennial OBD II
- E – Enhanced area biennial IM240

- 2 – Enhanced area biennial Two-Speed Idle
- 1 – Enhanced area biennial Single-Speed Idle
- B – Basic area annual Single-Speed Idle

The test results of the audit sample are grouped by the RapidScreen method used to select the vehicle. The overall test result includes the OBD II test or tailpipe test and a gas cap pressure test. In aggregate, 0% of the RapidScreen audit sample failed the OBD II test, 1.8% of the sample failed the tailpipe emissions inspection, and 1.6% of the sample failed the gas cap pressure test. The tailpipe failure rates are higher than the tailpipe failure results from the first two years due to a tightening of the IM240 emissions standards on February 4, 2002.

The results in Appendix B4 show that the average tailpipe emissions of the audit vehicles that failed the IM240 test are considerably lower than those of the average vehicle failing the IM240 test. Note that 50 of the 3,130 audit vehicles were inspected using the OBD II test type and do not have associated emissions measurements that can be used for evaluation. While this represents only 1.6% of the 2002 RapidScreen audit sample, in future calendar years, the percent of OBD II tested vehicles in the audit sample will greatly increase, thereby diminishing the statistical significance of the RapidScreen audit sample's tailpipe emissions analysis. This potential problem is discussed further in Section VII.

Table IV-2 RapidScreen Audit Test Pass / Fail Statistics

Type	Test Type	Vehicles	Overall Pass	Overall Fail	OBD Fail	Tailpipe Fail	Gas Cap Fail	Scr Status
RSD	6	34	34	0	0	n/a	0	2
	E	1,880	1,816	64	n/a	31	33	2
	2	47	45	2	n/a	1	1	2
	1	1	1	0	n/a	0	0	2
	B	21	20	1	n/a	0	1	2
Total		1,983	1,916	67	-	32	35	
			96.6%	3.4%	0.0%	1.6%	1.8%	
Hybrid	6	16	15	1	0	n/a	1	13
	E	1,074	1,037	37	n/a	25	13	13
	2	30	30	0	n/a	0	0	13
	B	27	26	1	n/a	0	1	13
Total		1,147	1,108	39	-	25	15	
			96.6%	3.4%	0.0%	2.2%	1.3%	
All	6	50	49	1	0	n/a	1	
	E	2,954	2,853	101	n/a	56	46	
	2	77	75	2	n/a	1	1	
	1	1	1	0	n/a	0	0	
	B	48	46	2	n/a	0	2	
Total		3,130	3,024	106	-	57	50	
			96.6%	3.4%	0.0%	1.8%	1.6%	

2. Tailpipe Emissions

In order to evaluate the Gateway Clean Air Program emission reductions and the impact of the RapidScreen component, vehicle test results were sorted by VIN, test date and time. Vehicles were then further classified based on their first and last test result during the period. Interim results are ignored. In the list below, the first and last results are indicated in parenthesis, where P is pass, F is fail, W is waiver and null indicates that there was only a single test result for a particular vehicle. The expected combinations that apply to the vast majority of vehicles are underlined.

- P – Passed initial test (P/null, P/P, P/F, P/W)
- R – Failed and successfully repaired (F/P)
- U – Failed unresolved (F/null, F/F)
- W – Failed and waived (F/W)

The difference between the initial and final tests is used to determine the percentage of tailpipe emissions reduction of each group[i]. For vehicles with only one test, the final result is the same as the initial result.

Adjustment of Fast-Pass Results

To allow for comparison of emissions of vehicles tested over different durations of the IM240 test cycle, the emission results for vehicles that fast-pass the IM240 inspection must be extrapolated. During the IM240 test, the highest instantaneous gram per mile values occur at second 30 and decrease as the test continues. Gram per mile emissions are highest at the beginning of the test for two reasons. First, some vehicles may not have been properly preconditioned prior to testing, so that their engines and catalytic converters are not fully warmed up, resulting in higher emissions at the start of the test. The emissions of these vehicles decrease once the engine and converter are hot. Second, the first part of the IM240 test simulates urban driving, while the second part of the IM240 test simulates highway driving, and the mass of tailpipe emissions per mile is higher during urban driving than during highway driving.

Several methods have been developed for estimating full test values from fast-pass IM240 test results. The Lawrence Berkeley Livermore Laboratory (LBNL) method developed by Tom Wenzel[6] has been used here. The LBNL method is based on a sample of second-by-second emissions of 4,000 vehicles given the full IM240 in Arizona in 1992. The grams per mile (g/mi) emissions were calculated for each vehicle for each second of the test, by dividing the cumulative grams of emissions over the cumulative distance driven at each second of the test. The g/mi emissions for each second were then averaged over the entire sample. The ratio is calculated of the emissions at each second to the emissions for the full IM240, for each pollutant for each vehicle. The adjustment factors are as high as three for

[i] Seventeen audit vehicles were tested using a different tailpipe procedure on their first and last test and were omitted from the analysis because a direct measurement of the change in emissions was not available. 50 vehicles received an OBD test and had no emissions measurements available for evaluation. Therefore, 3,063 of the 3,130 audit vehicles (98%) are included in the first-last test analysis. An additional 38 audit vehicles had an initial station test prior to being selected as a RapidScreen audit vehicle. These earlier tests, which were all passes, were ignored, and only the tests following the selection of the vehicle for RapidScreen audit purposes were used.

vehicles passed immediately after 30 seconds. Each of the adjustment factor curves reaches unity at second 240. The adjustments are greater for HC and CO emissions than for NOx emissions. The simplicity of the LBNL method allows it to be applied to stored IM240 test results.

Vehicles with Waivers

Over 15,000 vehicles received waivers in 2002. The inspection records for the waiver transaction do not contain tailpipe emission test results. The final emissions data used for these vehicles are, therefore, the results from the last tailpipe emissions inspection preceding the waiver. The reductions shown for these vehicles may not always reflect the final repairs made to the vehicle after it is wavered and may therefore understate the Gateway Clean Air Program emission reductions.

First and Final Emissions Results

When vehicles fail their initial inspection, they must obtain a repair and return for re-inspection. This process is normally completed in 30 days, but can take up to 60 days or longer. To avoid overstating the number of vehicles that have not completed the repair process, the initial and final matching process selects initial tests conducted from January 1, 2002 through December 31, 2002, and final tests conducted from January 1, 2002 through February 28, 2003. This allows 60 days for vehicles to have completed their test and repair cycle, which should be the majority of those that will complete the cycle.

A number of vehicles do not complete the repair-reinspection process. In most cases, these vehicles are either scrapped or removed from the nonattainment area, which does reduce emissions. Surveys in Arizona[7] and Colorado[8] have found that some vehicles continue to operate in the area in violation of the program rules, either with expired license plates or with stolen license plates or license plate stickers. In this report, it is assumed that two-thirds of these unresolved vehicles leave the area and one third continue to operate unlawfully in the area.

Table IV-3 contains an example of the initial and final tailpipe results for 1981 to 1984 passenger vehicles inspected using the IM240 test (with fast-pass test results adjusted according to the LBNL method). The table shows the average initial and average final emissions for each group of vehicles together with the percentage reduction.

For example, of the 1,538 1982 model year passenger vehicles tested using the IM240 transient test, 16.3% of vehicles initially failed inspection and were repaired (Pass) with a 78% to 80% reduction in HC and CO and an 41% reduction in NOx. Another 15.9% of vehicles failed their initial inspection and had not successfully passed a retest by February 28, 2002 (Unresolved). Reductions from these vehicles are estimated to be approximately 67% for HC, CO and NOx, because two thirds are assumed to have left the area. The remaining one third have modest reductions. Finally, 23% of vehicles were waived (Waiver), and the measured reductions prior to the waiver were 10% for HC and CO and 8% NOx. In aggregate, including vehicles that passed their initial inspection, emission reductions for 1982 passenger vehicles were 38% for HC, 37% for CO and 23% for NOx.

Complete tables by model year and vehicle type are provided in Appendix B for vehicles tested using the IM240, the Enhanced and Basic area idle test procedures. Tables are also

provided for the RapidScreen audit sample vehicles. The aggregate results from these tables (See Appendix B4) are used to estimate the air quality impact of the RapidScreen program on the effectiveness of the Gateway Clean Air Program.

Audit Sample Reductions and Projected Impact

Table IV-4 shows the aggregate first and final results for the audit sample and for all the vehicles that were tested in stations. The emissions reductions from the audit sample are used to project the reductions that could have been achieved if the vehicles that were RapidScreened had instead been inspected at the stations. This amount is then compared to the total emission reductions from vehicles tested at stations to determine the impact of the RapidScreen program and the percentage of emissions reductions retained.

For vehicles subject to the IM240 test, the RapidScreen program retained 96.8% of HC reductions, 97.6% of CO reductions and 93.4% of NOx reductions. These reductions assume all vehicles are driven the same number of miles each year. Mileage adjusted emission reductions are calculated in section VII. C.

For vehicles subject to either the Enhanced or Basic area idle tests, the RapidScreen program had no material effect on the potential tailpipe emission reductions from these vehicles. In other words, the RapidScreen program retained virtually 100% of the HC and CO reductions from these vehicles.

Table IV-3 Transient Test Emission Reductions for 1981-1984 Passenger Vehicles

IM240 Test Emissions Reductions

Unresolved fails remaining in area 33%

Model Year/Type	First Result	Last Result	Vehicles		Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	Reduction % HC	Reduction % CO	Reduction % NOX
1981	Pass	-	124		0.48	7.00	1.89	0.48	7.00	1.89	0.0%	0.0%	0.0%
P	Fail	Pass	68	18.5%	2.57	43.80	2.43	0.45	7.73	1.72	82.4%	82.3%	29.1%
	Fail	Unresolv.	104	28.3%	4.66	67.30	2.56	1.55	22.59	0.83	66.8%	66.4%	67.7%
	Fail	Waiver	72	19.6%	3.90	58.42	2.76	3.57	56.95	2.27	8.5%	2.5%	17.8%
Total	Fail%		368	66.3%	2.72	40.90	2.35	1.38	21.31	1.63	49.2%	47.9%	30.5%
1982	Pass	-	689		0.48	6.53	1.84	0.48	6.53	1.84	0.0%	0.0%	0.0%
P	Fail	Pass	250	16.3%	2.18	29.03	2.93	0.47	5.92	1.73	78.4%	79.6%	41.0%
	Fail	Unresolv.	245	15.9%	3.43	48.46	2.79	1.13	15.76	0.93	67.0%	67.5%	66.7%
	Fail	Waiver	354	23.0%	3.46	55.56	2.85	3.12	49.73	2.62	9.8%	10.5%	8.0%
Total	Fail%		1,538	55.2%	1.91	28.15	2.40	1.19	17.84	1.85	37.8%	36.6%	22.7%
1983	Pass	-	314		0.51	5.64	1.84	0.51	5.64	1.84	0.0%	0.0%	0.0%
P	Fail	Pass	128	15.8%	2.17	28.49	2.65	0.46	5.24	1.60	78.6%	81.6%	39.5%
	Fail	Unresolv.	201	24.9%	3.66	57.10	2.73	1.20	18.98	0.91	67.1%	66.8%	66.6%
	Fail	Waiver	165	20.4%	3.61	54.75	2.70	3.16	43.68	2.77	12.5%	20.2%	-2.6%
Total	Fail%		808	61.1%	2.19	32.09	2.36	1.22	16.66	1.76	44.4%	48.1%	25.5%
1984	Pass	-	2,550		0.48	5.26	1.78	0.48	5.26	1.78	0.0%	0.0%	0.0%
P	Fail	Pass	882	17.2%	1.77	24.26	2.72	0.45	4.54	1.66	74.8%	81.3%	39.1%
	Fail	Unresolv.	659	12.9%	3.27	47.87	2.70	1.06	15.55	0.90	67.7%	67.5%	66.6%
	Fail	Waiver	1,026	20.1%	3.12	47.99	2.98	2.83	44.36	2.74	9.3%	7.6%	8.0%
Total	Fail%		5,117	50.2%	1.59	22.59	2.30	1.02	14.30	1.84	35.9%	36.7%	20.1%

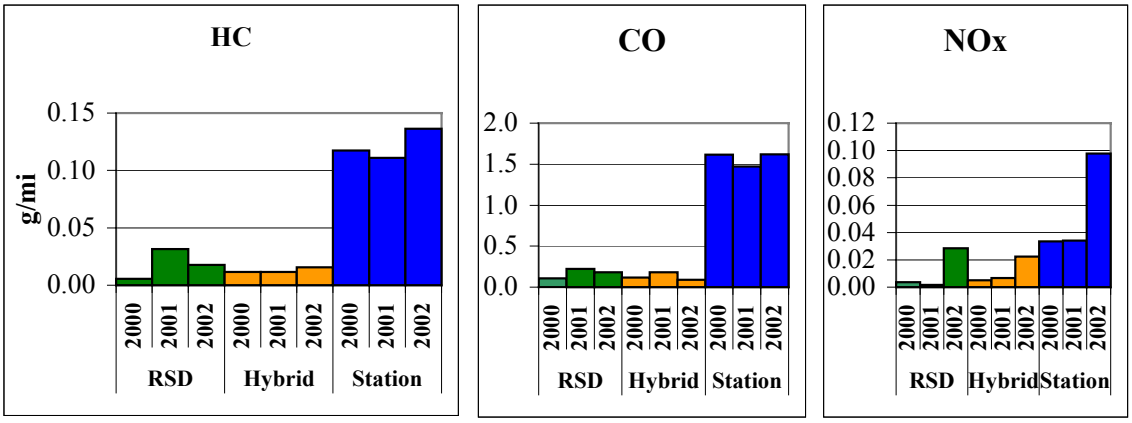
Table IV-4 RapidScreen Emissions Impact

	IM240 Tailpipe Emissions				Enhanced Idle Tailpipe			Basic Idle Tailpipe		
	Vehicles	**HC g/mi**	**CO g/mi**	**NOx g/mi**	**Vehicles**	**HC ppm**	**CO %**	**Vehicles**	**HC ppm**	**CO %**
Audit Sample	2,929				82			52		
Mean Initial		0.263	2.90	0.850		56.622	0.169		33.750	0.123
Mean Final		0.246	2.75	0.824		46.365	0.161		36.077	0.135
Emissions reduction		0.017	0.15	0.026		10.257	0.008		-2.327	-0.013
RapidScreens	126,771				4,130			1,496		
Potential Reductions		2,147	18,866	3,331		42,360	32		(3,482)	(19)
Station Vehicles	480,330				30,167			59,197		
Mean Initial		0.559	6.18	1.190		269.01	1.136		97.39	0.383
Mean Final		0.423	4.56	1.093		142.58	0.707		68.28	0.242
Emissions reduction		0.136	1.62	0.098		126.42	0.429		29.11	0.141
In station reductions		65,499	777,500	47,003		3,813,852	12,929		1,723,014	8,319
Combined RS & Stn	607,101	67,645	796,366	50,334	34,297	3,856,213	12,961	60,693	1,719,532	8,300
Rapid Screen Impact		3.2%	2.4%	6.6%		1.1%	0.2%		-0.2%	-0.2%
Retained Reductions		96.8%	97.6%	93.4%		98.9%	99.8%		100.2%	100.2%

In Figure IV-1, the average per vehicle emission reductions for RapidScreen audit vehicles receiving an IM240 test (the majority of RapidScreen-eligible vehicles would be subject to an IM240 test based on their model year) are compared with the average per vehicle emission reductions for non-RapidScreened vehicles receiving an IM240 test for the startup period, 2001, and 2002. For convenience, the startup period is labeled as 2000 even though it covered testing from the start of the program in 2000 through March 2001. Note that the average reductions from the RapidScreen audit vehicles selected using the RSD or Hybrid methods are much smaller than the average reductions from the vehicles that are not RapidScreened and instead tested at an inspection station. These charts illustrate that, even though some of the RapidScreen vehicles failed a station test, RapidScreened vehicles have smaller amounts of repairable emissions than do non-RapidScreened vehicles.

The RSD and Hybrid test methods continue to have similar effectiveness. The main change in 2002 program effectiveness is the increase in the average per vehicle NOx reductions in both the RapidScreen audit sample and the non-RapidScreened vehicles as a result of tighter IM240 cutpoints introduced early in 2002. In section VIII, we propose investigating the application of a VSP adjustment to remote sensing NOx measurement values to better account for the vehicle operating condition at the time of the measurement, with the goal of decreasing the amount of excess NOx emissions in the RapidScreen audit sample.

Figure IV-1 Average Per Vehicle IM240 Emission Reductions



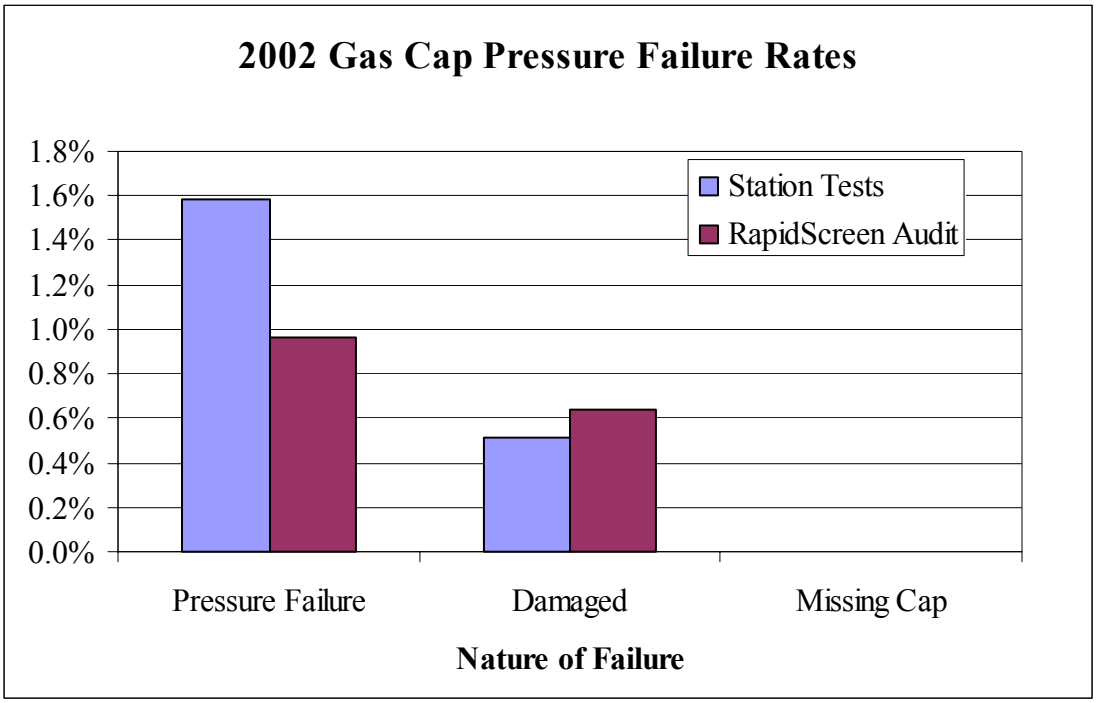
C. *Evaporative Emissions*

The evaporative emissions test used in the Gateway Clean Air Program is a gas cap pressure test. Leaking gas caps allow evaporated gasoline (HC) to escape from vehicle gas tanks into the atmosphere. The impact of the RapidScreen program is only evaluated in this report in terms of the failure rate, not in terms of repairable gas cap emissions reductions[i].

[i] Although the gas cap leak rates are measured in the Gateway Clean Air Program, it is not clear that leak rates are directly related to the amount of evaporative HC emissions released from the gas tank. A small pressure leak may have the same effect as a large pressure leak, as long as it is sufficient to release internal gas tank pressure over a period of an hour or so.

Figure IV-2 compares the average gas cap failure rate of the RapidScreen audit sample vehicles to the average failure rate of the non-RapidScreened vehicles tested at stations. The failure rate of vehicles RapidScreened is lower than the failure rate of vehicles that received a station-based test, but the difference between the two groups of vehicles is not as great as it was for tailpipe emissions (See Figure IV-1). This result is expected because remote sensing is directed towards measuring tailpipe emissions. An evaporative leak would have to be quite large to be detected by RSD units. There were no vehicles with missing gas caps found among the RapidScreen audit sample and a minimal number of missing caps were identified at stations in 2002.

Figure IV-2 Average Gas Cap Pressure Failure Rates



Using the fail rates identified in the audit sample, Table IV-5 shows the projected gas cap failures that would have been found in the vehicles that were RapidScreened[i]. These projected gas cap failures are added to the actual gas cap failures identified in initial inspections at the test stations to provide the total possible gas cap failure rate for the program. RapidScreen vehicles account for 15% of the total possible gas cap failures. Therefore, 85% of the possible evaporative HC emission reductions were retained.

[i] Only 1981 and newer model year vehicles are gas cap tested. Therefore, fewer vehicles are given a gas cap test (563,543) than are given an emissions test (567,418).

Table IV-5 RapidScreen Impact on Evaporative HC Emissions

	Initial Tests	Pressure Failure	Damaged	Missing Cap	Total
RapidScreen Audit	3,127	0.96%	0.64%	0.00%	1.60%
Projected RapidScreen	130,900	1,256	837	-	2,093
Station GC Tests	563,543	8,919	2,882	5	11,806
Total Program	694,443	10,175	3,719	5	13,899
RapidScreen Impact	19%	12%	23%	0%	15%
Retained Reductions	81%	88%	77%	100%	85%

V. On-Road Testing Results

The remote sensing measurements collected during the startup period have been used to plot charts of the on-road vehicle emissions of vehicles registered to the Basic and Enhanced areas. For fleet evaluation and high emitter identification, it is useful to use remote sensing measurements that are within the range of engine operating conditions over which emissions are intended to be controlled. As noted in section III. A. 1., only the RSD measurements of vehicles operating within the vehicle specific power range of 5 to 25 kW/t have been used for the analysis in section V.

A. Basic and Enhanced Area On-Road Emissions

Figures V-1 through V-3 show the average measured emissions by model year of vehicles registered in the Basic area and Enhanced areas. In 2000 and 2001, vehicles in the Basic area had slightly higher emissions for all three pollutants than those in the Enhanced area. The on-road measurements for 2002 indicate this continues to be true, especially for NOx emissions, because the idle test does not measure vehicles for NOx. Prior to 2000, Basic area vehicles were not subject to any emissions test. Beginning in April 2000, Basic area vehicles have been tested using a less stringent idle test once every year, whereas Enhanced area vehicles are tested using a more stringent IM240 test once every two years.

Figure V-1 RSD HC Emissions by Model Year

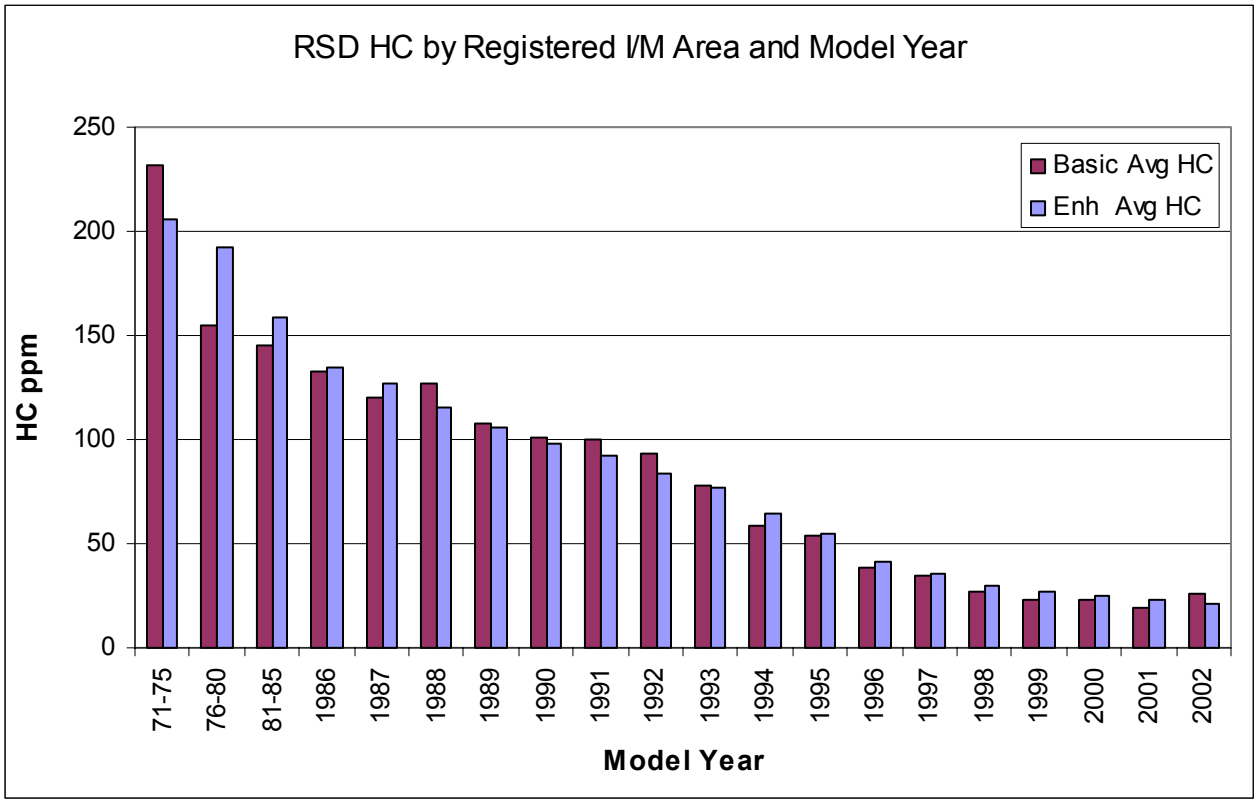


Figure V-2 RSD CO Emissions by Model Year

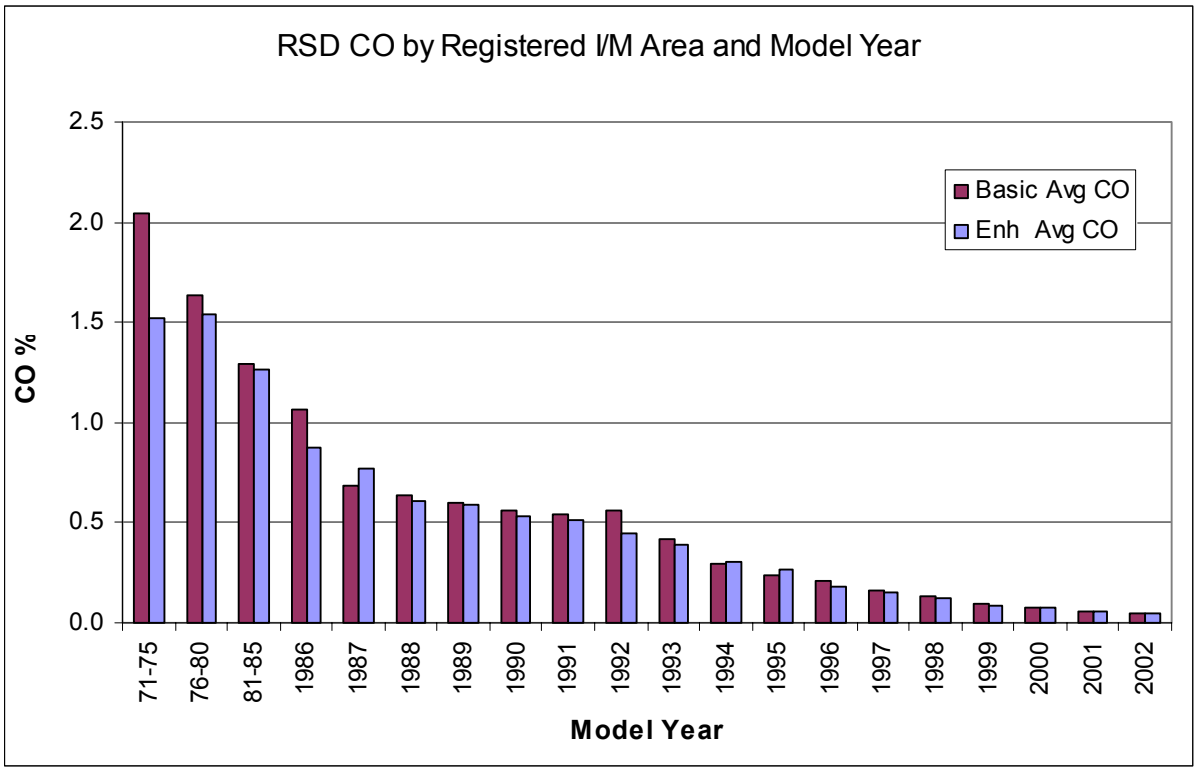
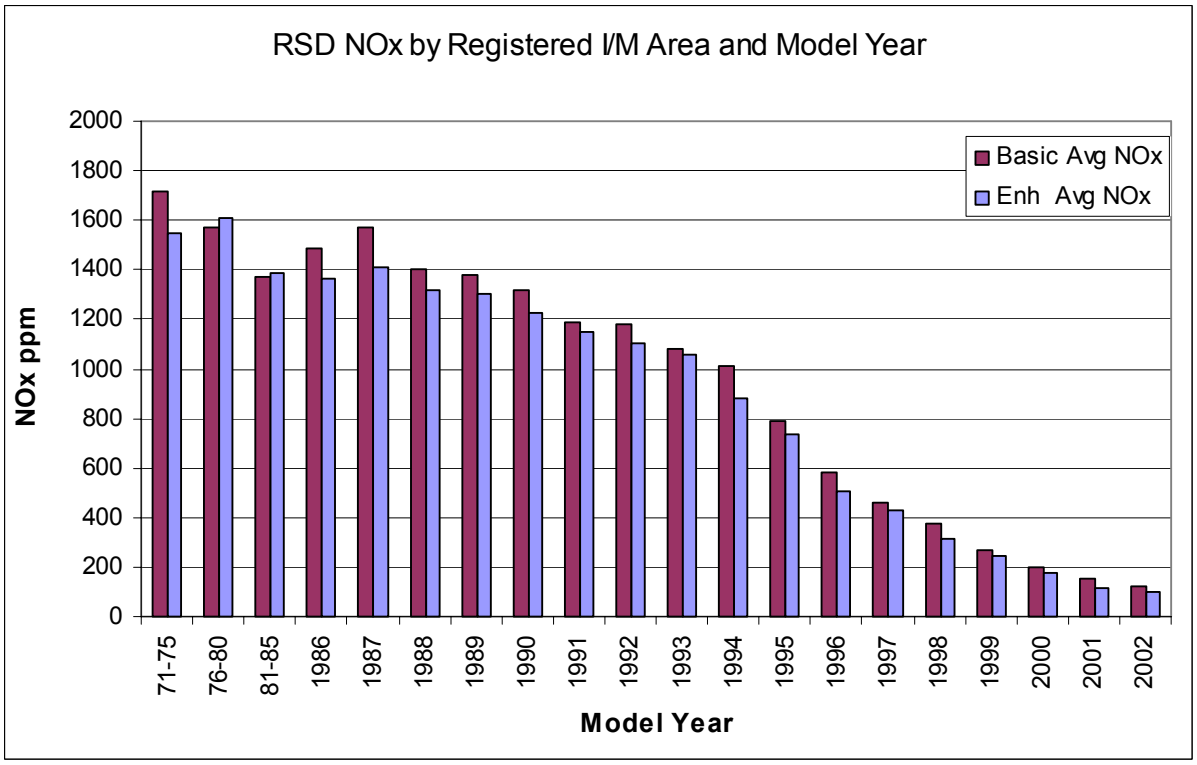


Figure V-3 RSD NOx Emissions by Model Year

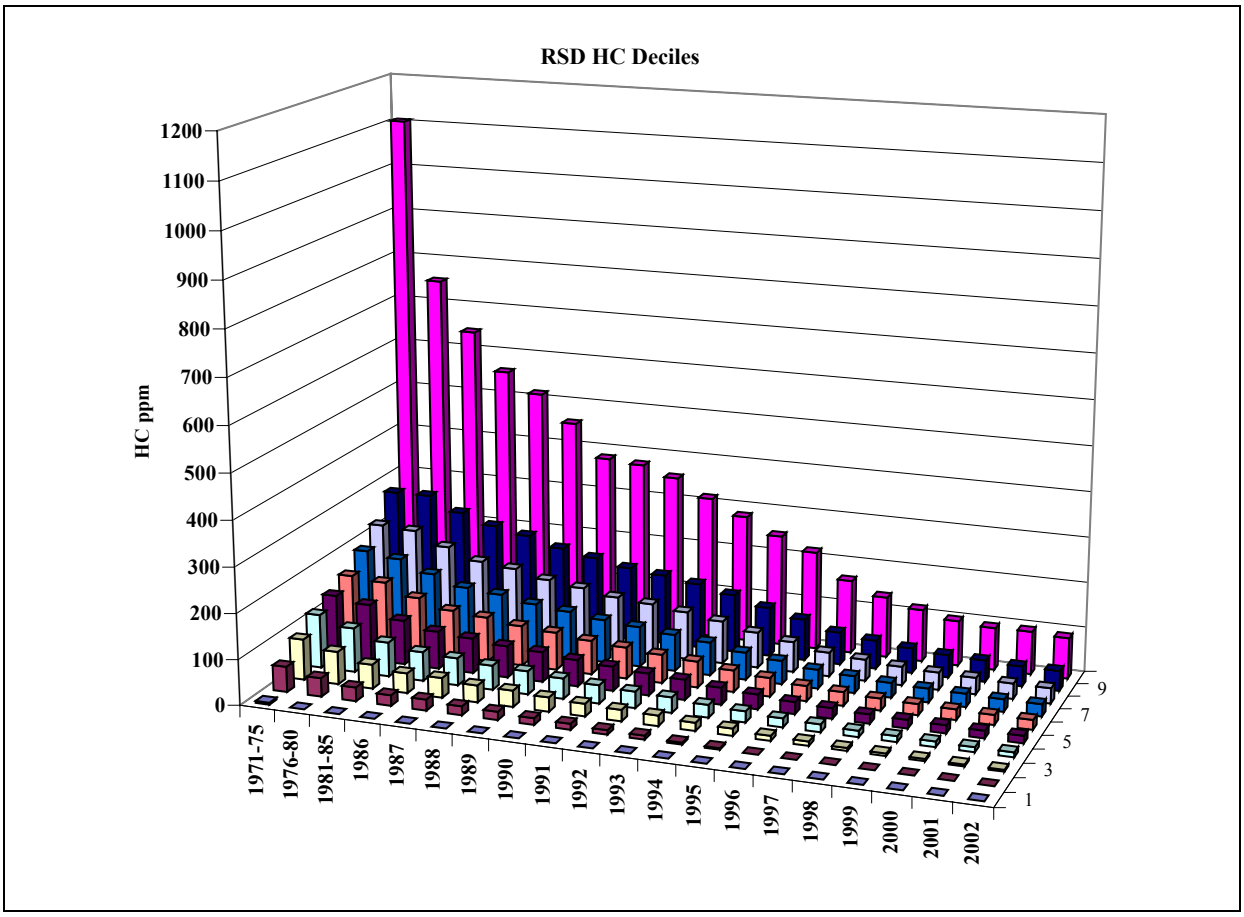


B. Enhanced Area On-Road Emission Deciles by Model Year

Figures V-4 through V-6 illustrate the emissions impact within each model year of vehicles registered in the Enhanced area. Only remote sensing measurements falling within the VSP range of 3-22kW/t were used. If the vehicle was seen more than once, the measurements were averaged to obtain a single result per vehicle. For each pollutant, vehicles were ranked and divided into ten groups per model year with each decile containing 10% of the vehicles. The vertical bars show the average emissions of each decile.

These three figures illustrate that there are low emitting and high emitting vehicles in all model years, but that the proportion of low emitting vehicles is much greater among newer vehicles. The level of emissions among the highest emitting decile of vehicles in each model year is much higher for the older vehicles.

Figure V-4 Enhanced Area Vehicle HC Deciles by Model Year



The shape of these three charts suggests that the HC and CO emissions have been maintained at lower levels as a result of the basic I/M program that was in place in the St. Louis area (except Franklin County) prior to 2000. The prior basic I/M program tested and failed vehicles for HC and CO, but not for NOx. The shape of these three charts could also suggest that newer vehicle technology has been more successful in controlling HC and CO than in controlling NOx.

NOx emissions appear to be much more evenly distributed throughout the fleet. It is unclear whether the increase in measured on-road NOx emissions from newer to older model years is purely related to vehicle age or is a mixture of improved technology and age.

Figure V-5 Enhanced Area Vehicle CO Deciles by Model Year

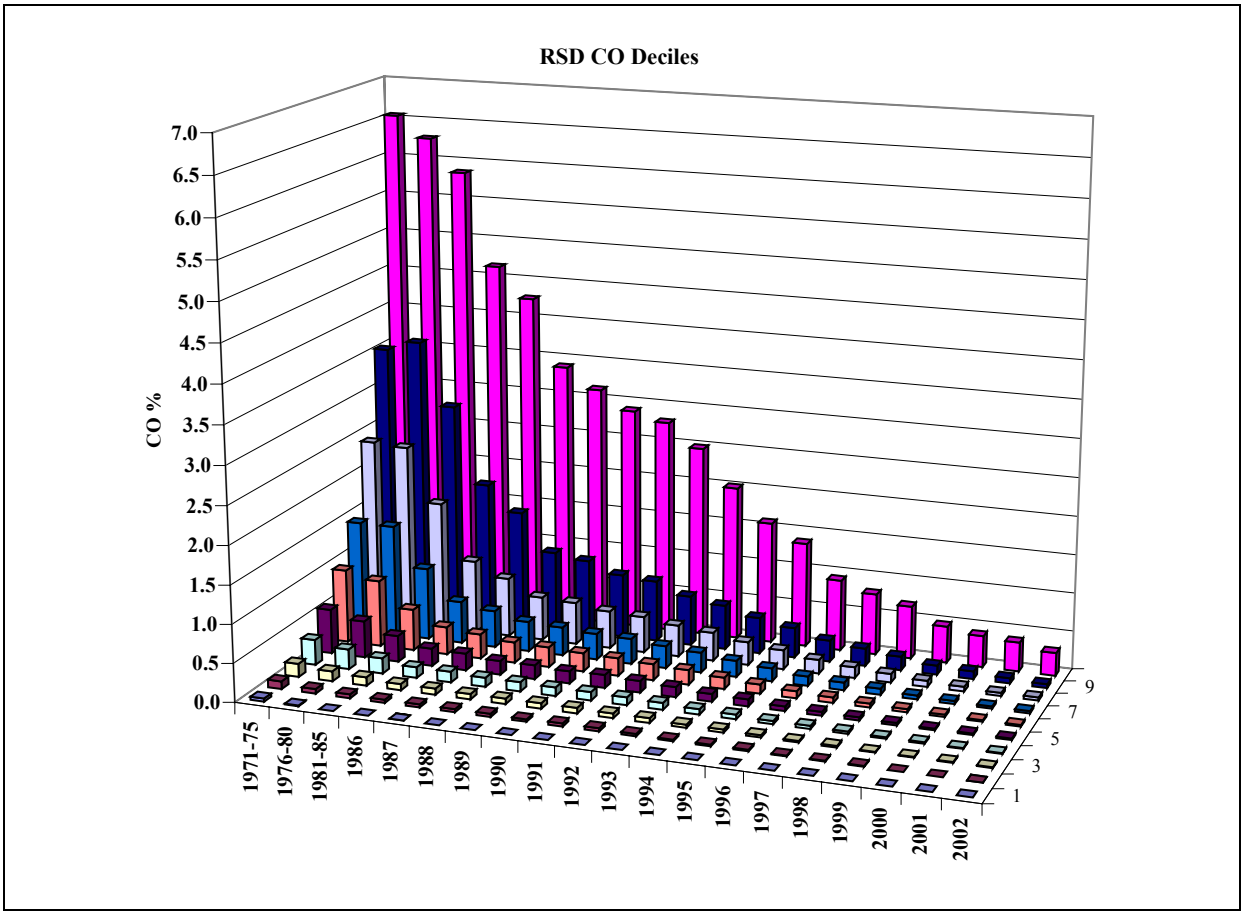
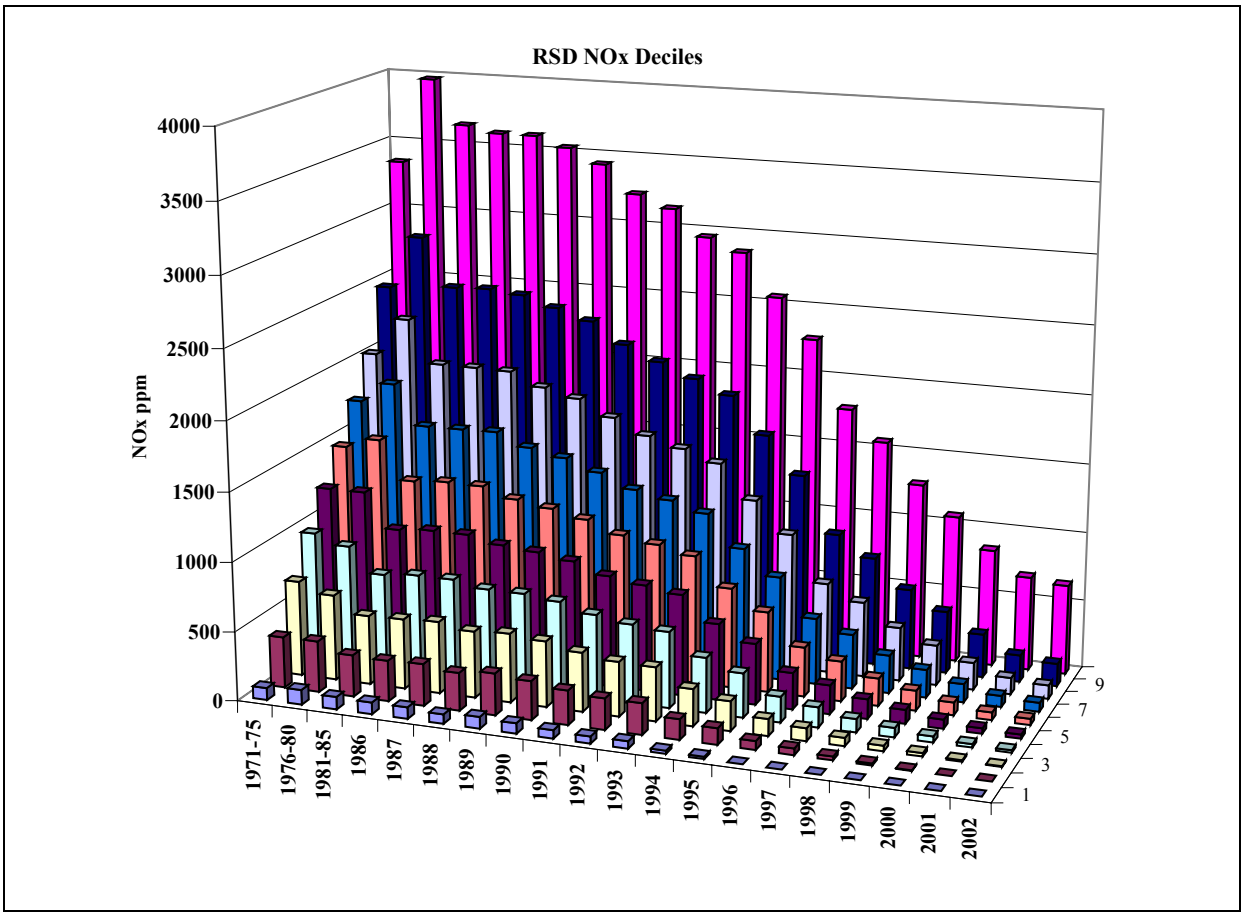


Figure V-6 Enhanced Area Vehicle NOx Deciles by Model Year



C. Enhanced Area On-Road Emissions of Vehicles Before and After I/M Inspection

Figures V-7 through V-9 show emissions of vehicles in the Enhanced I/M area measured before their initial IM240 test and after their final IM240 test. There are significant reductions in HC, CO and NOx emissions for failing vehicles after the vehicles have been repaired. Much of the reduction appears to be retained during the following twelve months.

It appears that average HC, CO and NOx emissions in the set of vehicles that will pass the test decrease in the months before inspection. This reduction, which was also observed in the two previous RapidScreen reports, is probably the result of pre-inspection repairs and tune-ups. This is a benefit that is not traditionally measured by I/M test results. Seasonal or other factors may also be affecting the on-road emission levels. In particular, the measurements included in each month before or after I/M inspection are not the same set of vehicles for each period – they are measurements of any vehicles that fit the criteria for the time period. More detailed investigation is required to quantify the benefit of pre-inspection repairs, its longevity and to investigate seasonal and other timing effects.

Figure V-7 RSD HC Emissions Before and After IM240 Test

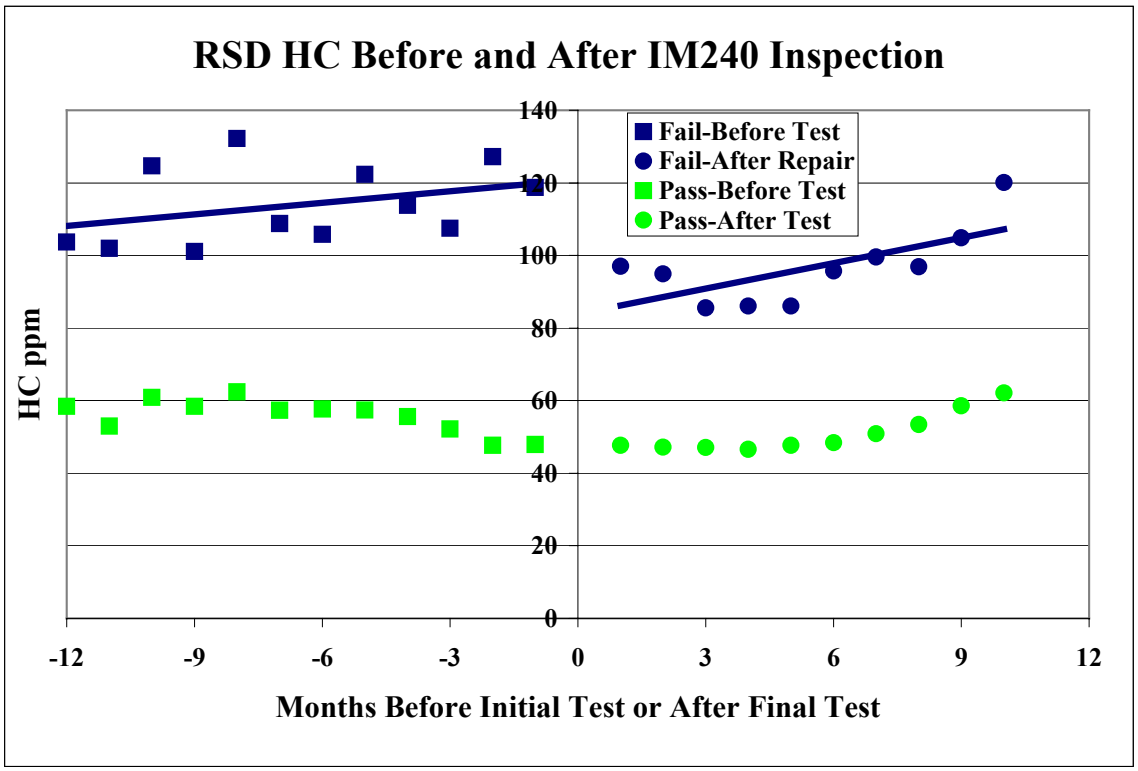


Figure V-8 RSD CO Emissions Before and After IM240 Test

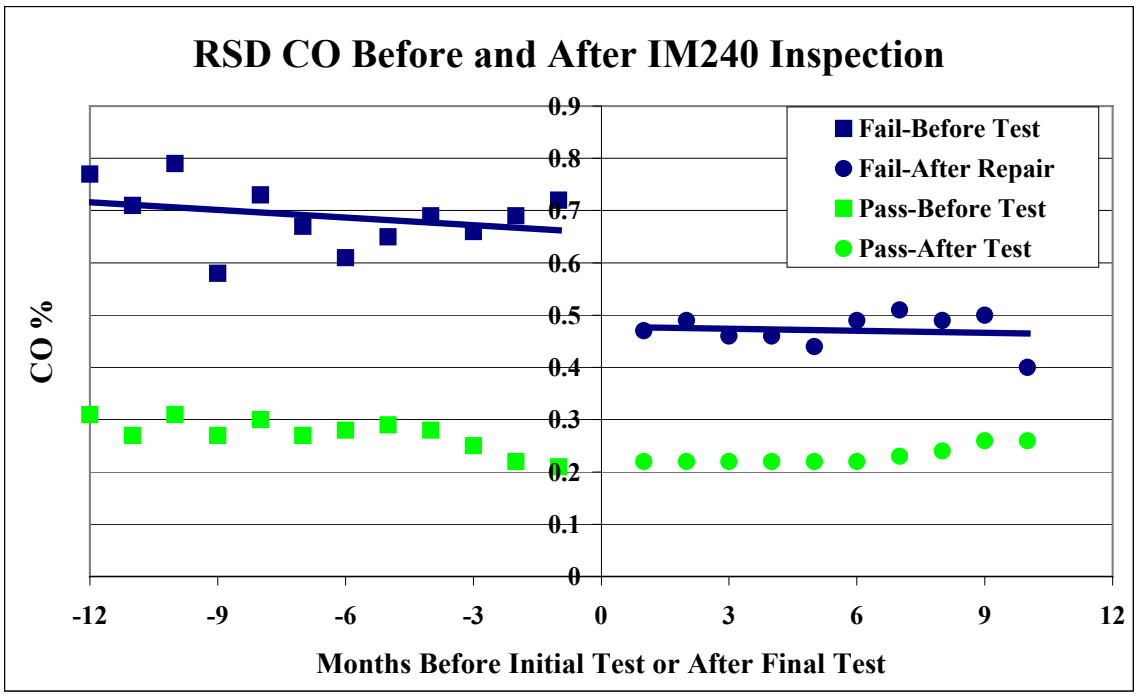
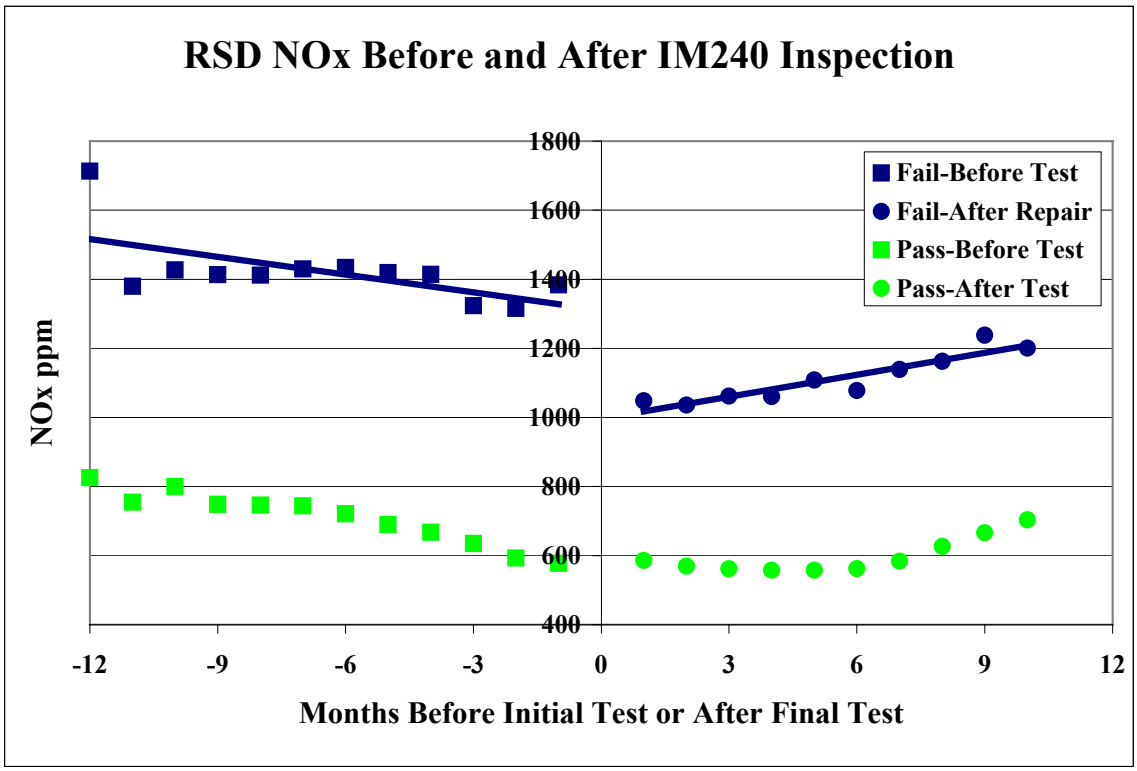


Figure V-9 RSD NOx Emissions Before and After IM240 Test



1. 2002 vs. 2001 Reductions

Table V-1 tabulates the mean emissions of vehicles before and after their inspection at stations in 2002 and in 2001. For vehicles passing their initial I/M inspection, the values shown are the mean on-road emissions of vehicles measured by RSD four to six months before their initial I/M inspection and one to three months after the inspection. For vehicles failing their initial I/M inspection, the values shown are the mean on-road emissions of vehicles measured by RSD one to six months before their initial I/M inspection and one to three months after their final inspection. The selection of these time periods is based on the trends observed in Figures V-7 to V-9. There are significant improvements in NOx reductions in 2002 that can be attributed to the introduction of final IM240 cutpoints in February 2002.

The reduction between before and after I/M emissions for vehicles that pass their initial inspection appears to be a very significant program benefit. As mentioned earlier, however, additional analysis is required to rule out seasonal and other effects that could be present in the results. This is beyond the scope of this report.

Table V-1 On-road Emissions Before and After I/M Inspection

	2002			2001		
	HC ppm	CO %	NOx ppm	HC ppm	CO %	NOx ppm
Initial Pass						
4-6 months before	57	0.28	693	56	0.34	812
1-3 months after	47	0.22	572	45	0.29	729
Reduction	10	0.06	121	11	0.05	84
Reduction %	17%	22%	17%	19%	15%	10%
Initial Fail and Repair						
1-6 months before	116	0.67	1,382	124	0.95	1,337
1-3 months after	93	0.47	1,049	87	0.67	1,192
Reduction	23	0.20	333	37	0.27	146
Reduction %	20%	29%	24%	30%	29%	11%

2. 1995 & Older vs. 1996 & Newer Reductions

As a first step towards verifying the consistency of the trends observed in section V. C. 1. above, vehicles have been divided into 1995 and older models and 1996 and newer models. This grouping represents the distinction between non-OBD II-equipped vehicles and OBD II-equipped vehicles, respectively.

Table V-2 and Figures V-10 through V-12 show the mean emissions observed on-road in 2002 for the two groups of vehicles. Mean emissions for 1995 and older vehicles are two to three times those of the 1996 and newer vehicles, but the before and after I/M reductions are much closer on a per vehicle basis. For example, for vehicles passing their initial emissions inspection, the average HC reduction as measured on-road before and after the emissions inspection was 4 ppm for 1995 and older vehicles and 8 ppm for 1996 and newer vehicles. For vehicles failing their initial emissions inspection and passing a re-inspection, the average HC reduction as measured on-road before and after the emissions inspection was 22 ppm for 1995 and older vehicles and 23 ppm for 1996 and newer vehicles. In other words, the measured on-road reductions within the initially passing and within the initially failing and repaired group of vehicles are of the same magnitude, regardless of the model year grouping. Note, however, that the number of failing 1995 and older vehicles is much greater, and these 1995 and older vehicles therefore contribute the greater share of reductions.

Table V-2 On-road Emissions Before and After I/M Inspection for 1995 and Older vs. 1996 and Newer Models

	1995 & Older			1996 & Newer		
	HC ppm	CO %	NOx ppm	HC ppm	CO %	NOx ppm
Initial Pass						
4-6 months before	78	0.44	1,105	38	0.14	332
1-3 months after	75	0.38	1,031	30	0.11	275
Reduction	4	0.06	74	8	0.03	56
Reduction %	5%	14%	7%	22%	23%	17%
Initial Fail and Repair						
1-6 months before	130	0.75	1,559	63	0.37	728
1-3 months after	108	0.55	1,210	39	0.20	506
Reduction	22	0.20	349	23	0.17	222
Reduction %	17%	26%	22%	37%	46%	31%

Figure V-10 Mean HC Emissions Before and After IM240 Test

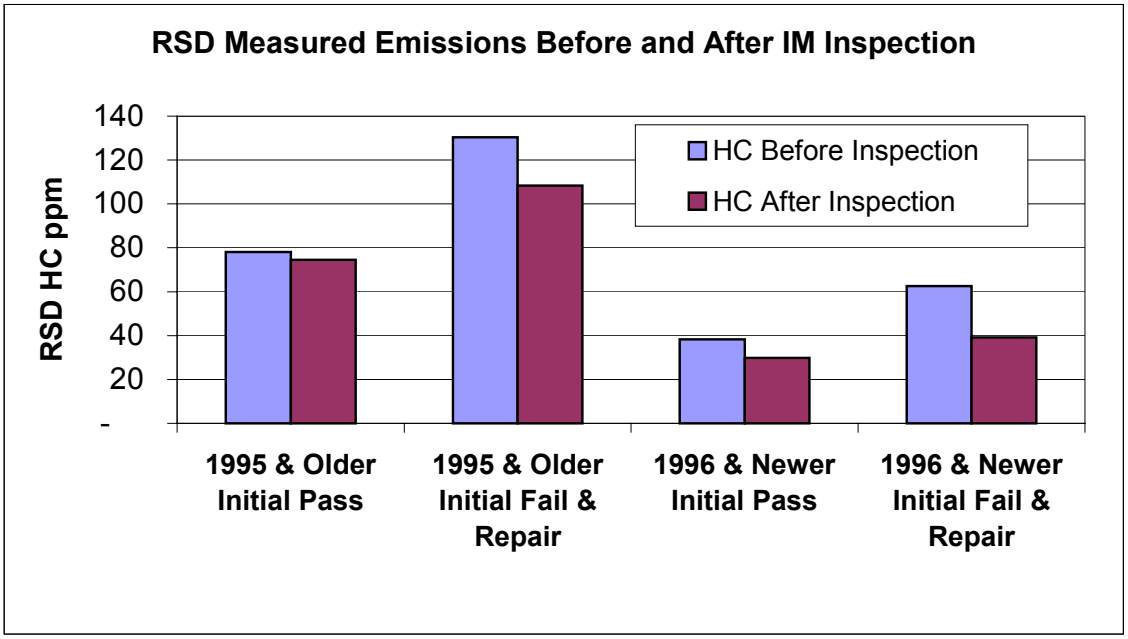


Figure V-11 Mean CO Emissions Before and After IM240 Test

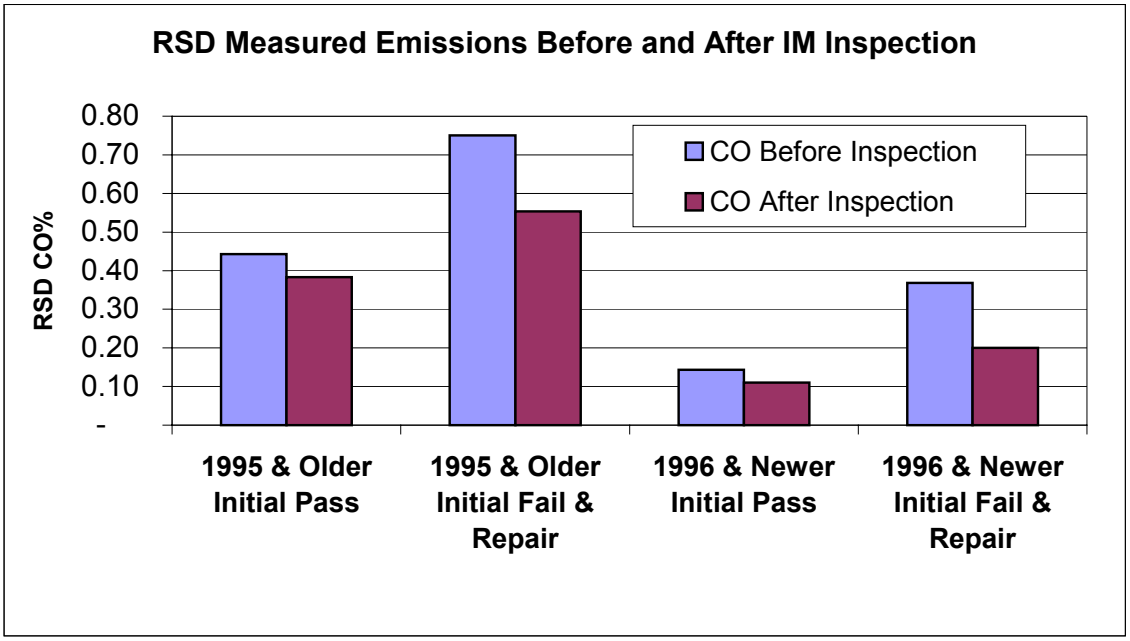
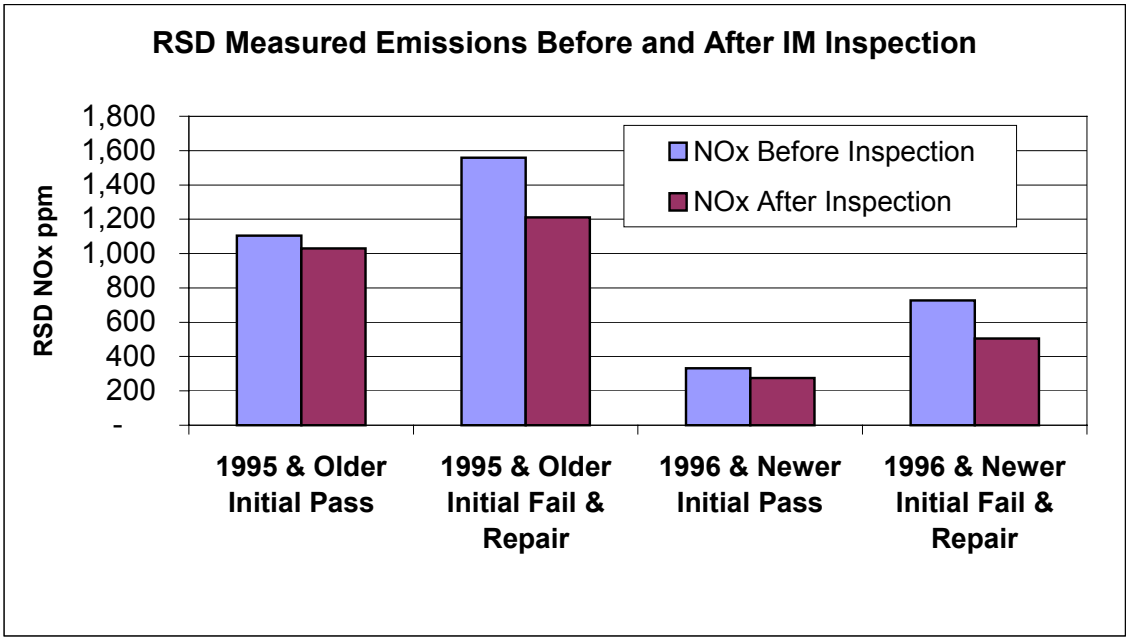


Figure V-12 Mean NOx Emissions Before and After IM240 Test



VI. Estimate of Combined Program Reductions

In section IV. B. 2., percentage reductions from the Gateway Clean Air Program were estimated for each model year. In order to estimate the overall RapidScreen impact, two additional tasks remain: the conversion of idle test emission results from concentration to mass equivalents, and the weighting of emission results by the average number of annual miles driven.

A. Conversion of Idle Test Results

Because the correlation of a station test method to an on-road test method is independent of the cutpoints for either test method, the remote sensing measurement correlations developed in section VI. A. of the 2001 RapidScreen report are used to convert all test values to IM240-equivalent values.

The IM240 test correlations for 2001 and the startup period are summarized in Table VII-1, where:

IM240 (g/mi) = (A x RSD) + B

Table VI-1 IM240 vs. RSD Correlation

January – December 2001

Emission	Type	A	B	R2
HC	LDGV	0.0162	-0.3750	0.96
HC	LDGT	0.0172	-0.1624	0.95
CO	LDGV	25.71	-2.30	0.98
CO	LDGT	22.41	0.47	0.99
NOx	LDGV	0.0016	-0.0143	0.99
NOx	LDGT	0.0017	0.2069	0.96

Startup (January 2000 – March 2001)

Emission	Type	A	B	R2
HC	LDGV	0.0149	-0.4193	0.97
HC	LDGT	0.0169	-0.2702	0.88
CO	LDGV	25.58	-2.31	0.97
CO	LDGT	26.63	-0.73	0.92
NOx	LDGV	0.0016	-0.0555	0.99
NOx	LDGT	0.0017	0.2003	0.98

The correlation factors (the R2 column) between RSD and IM240 for 2001 were similar to those found for the startup period and are nearly unity (1.0), meaning a high degree of correlation between the IM240 station test and the on-road RSD test.

The idle test correlations are summarized in Tables VI-2 and VI-3, where:

Idle Test (ppm or %) = C x RSD

Table VI-2 Enhanced Idle vs. RSD Correlation

January – December 2001

Emission	Type	C	R2
HC	LDGV	1.524	0.84
HC	LDGT	1.456	0.77
CO	LDGV	0.683	0.65
CO	LDGT	0.793	0.78

Startup (January 2000 – March 2001)

Emission	Type	C	R2
HC	LDGV	1.236	0.87
HC	LDGT	1.522	0.83
CO	LDGV	0.543	0.67
CO	LDGT	0.702	0.68

Table VI-3 Basic Idle vs. RSD Correlation

January – December 2001

Emission	Type	C	R2
HC	LDGV	1.329	0.69
HC	LDGT	1.374	0.77
CO	LDGV	0.820	0.91
CO	LDGT	0.839	0.76

Startup (January 2000 – March 2001)

Emission	Type	C	R2
HC	LDGV	0.982	0.60
HC	LDGT	1.266	0.79
CO	LDGV	0.644	0.43
CO	LDGT	0.813	0.80

Rearranging the idle test RSD equation yields:

RSD = (1 / C) x Idle Test.

This is substituted into the IM240 correlation to give:

IM240 (g/mi) = A x [(1 / C) x Idle Test] + B

Or,

IM240 (g/mi) = [(A / C) x Idle Test] + B

The resulting idle test to IM240 test conversion factors are summarized in Tables VI-4 and VI-5. The idle test vs. RSD correlation factors are not as close to unity as the IM240 vs. RSD correlation factors are as shown by the R2 values in the tables VI-2 and VI-3. Because the degree of correlation is reduced, the calculation of mass emissions from idle test measurements is more of an approximation.

Table VI-4 Enhanced Idle to IM240 Conversion

January – December 2001

Emission	Type	(A / C)	B
HC	LDGV	0.0106	-0.3750
HC	LDGT	0.0118	-0.1624
CO	LDGV	37.63	-2.30
CO	LDGT	28.27	0.47

Startup (January 2000 – March 2001)

Emission	Type	(A / C)	B
HC	LDGV	0.0121	-0.4193
HC	LDGT	0.0111	-0.2702
CO	LDGV	47.13	-2.31
CO	LDGT	37.95	-0.73

Table VI-5 Basic Idle to IM240 Conversion

January – December 2001

Emission	Type	(A / C)	B
HC	LDGV	0.0122	-0.3750
HC	LDGT	0.0125	-0.1624
CO	LDGV	31.37	-2.30
CO	LDGT	26.70	0.47

Startup (January 2000 – March 2001)

Emission	Type	(A / C)	B
HC	LDGV	0.0152	-0.4193
HC	LDGT	0.0133	-0.2702
CO	LDGV	39.73	-2.31
CO	LDGT	32.77	-0.73

B. Annual Mileage Weighting

Because of possible data entry errors and odometer rollover on older, high mileage vehicles, obtaining estimates of annual mileage from the Gateway Clean Air Program odometer readings for each model year and type of vehicle is not recommended. To avoid these problems, the national average annual mileages that EPA developed as part of the development of the Mobile6 inventory model[9] have been used. 2003 model vehicles were exempt from I/M inspection in 2002 and are not included in the analysis of emissions reductions.

The estimated annual mileages are shown in Table VI-6 for LDGVs and LDGTs. Since EPA gives separate estimates of mileage for LDGTs below and above 6,000 pounds GVWR, an assumption of an 80:20 mix of these trucks, respectively, has been used to generate the third column of Table VI-6. This table indicates that newer model year vehicles are driven more miles annually than older vehicles. It also indicates that 1988 and newer model year LDGTs, which emit greater masses of pollution than LDGVs (See section VI. A. of the 2001 RapidScreen Report), are driven more miles annually than 1988 and newer model year LDGVs.

Table VI-6 Estimated Annual Mileage in 2002

Year	LDGV	LDGT
1981 & older	4,902	3,397
1982	5,420	4,154
1983	5,701	4,588
1984	5,997	5,055
1985	6,308	5,556
1986	6,636	6,093
1987	6,980	6,663
1988	7,342	7,269
1989	7,723	7,911
1990	8,124	8,589
1991	8,546	9,305
1992	8,989	10,057
1993	9,456	10,849
1994	9,947	11,681
1995	10,463	12,553
1996	11,006	13,465
1997	11,577	14,420
1998	12,178	15,417
1999	12,810	16,459
2000	13,475	17,546
2001	14,174	18,680
2002	14,910	19,863

C. Annual Emissions Reductions

The average initial and final emissions for each test type, vehicle type and model year (See Appendix B) are multiplied by the number of vehicles and the annual mileage to determine the initial and final tons of emissions and, therefore, the tons of reduction. In the case of vehicles tested using the idle test, the results for each year are converted to IM240 equivalents using the conversion equations developed in section VI. A. The results of the computations for each model year are included in Appendix C.

Table VI-7 first shows the reductions from the RapidScreen audit tests. Based on the audit tests, the second part of the table projects the potential reductions from the RapidScreen vehicles if all RapidScreened vehicles had been tested at a station. The third part of the table shows the reductions from the vehicles that were tested at inspection stations, which includes the RapidScreen audit vehicles. The total potential reductions from the program are the combination of the potential reductions from the RapidScreened vehicles plus the actual reductions from the vehicles tested at stations.

In Table IV-4, the RapidScreen emissions impact was expressed without consideration of the annual vehicle miles traveled (VMT) by each model year of vehicles. Table VI-7's more complete analysis shows that the emissions impact of RapidScreen decreases when the VMT estimates are factored in. During 2002, the RapidScreen program retained 97%, 98% and 92%, respectively, of potential HC, CO and NOx tailpipe emission reductions in vehicles subject to testing.

These calculations show that for the vehicles initially tested in calendar year 2002, the Gateway Clean Air Program eliminated 964 tons of HC, 11,344 tons of CO and 423 tons of NOx for one year of vehicle travel – based on the IM240 driving cycle. These tailpipe pollution reductions represent an increase of 27%, 18% and 155%, respectively, over the HC, CO, and NOx reductions obtained in 2001.

Table VI-7 Estimated Annual Tons Of Reduction

	Audit Vehicle Reductions (tons/yr)			
Audit Tests	**Unique Vehicles**	**HC**	**CO**	**NOx**
Enhanced IM240	2,929	0.51	4.67	0.89
Enhanced Idle	82	0.08	0.22	0.00
Basic Idle	52	-0.02	-0.36	0.00
Total	3,063	0.57	4.53	0.89

	Potential from RS Vehicles (tons/yr)			
RapidScreen	**Unique Vehicles**	**HC**	**CO**	**NOx**
Enhanced IM240	127,980	22.3	204.2	38.7
Enhanced Idle	4,130	4.0	11.0	0.0
Basic Idle	1,496	-0.5	-10.3	0.0
Total	**133,606**	**25.8**	**204.9**	**38.7**

	Station Reductions (tons/yr)			
Station I/M Tests	**Unique Vehicles**	**HC**	**CO**	**NOx**
OBD II	4,332	n/a	n/a	n/a
Enhanced IM240	480,330	568.4	6,775.6	423.2
Enhanced Idle	30,167	248.8	2,512.2	0.0
Basic Idle	59,197	146.7	2,055.8	0.0
Total Actual	**574,026**	**963.9**	**11,343.6**	**423.2**
Total Potential Reductions		**989.6**	**11,548.6**	**461.9**
RapidScreen Impact		*2.6%*	*1.8%*	*8.4%*
Retained Reductions		***97.4%***	***98.2%***	***91.6%***

Because the program is biennial, these reductions are approximately half of the reductions that would be measured over a full two-year cycle of the program.

The tons of reductions cited here do not relate directly to the total mobile emissions inventory. The reductions cited are for tailpipe emissions and are in terms of the IM240 driving cycle. State Implementation Plan reductions are based on different driving cycles, are subject to many adjustments for speed, road type, temperature, air conditioning loads, etc., and therefore are larger than the IM240 measured reductions.

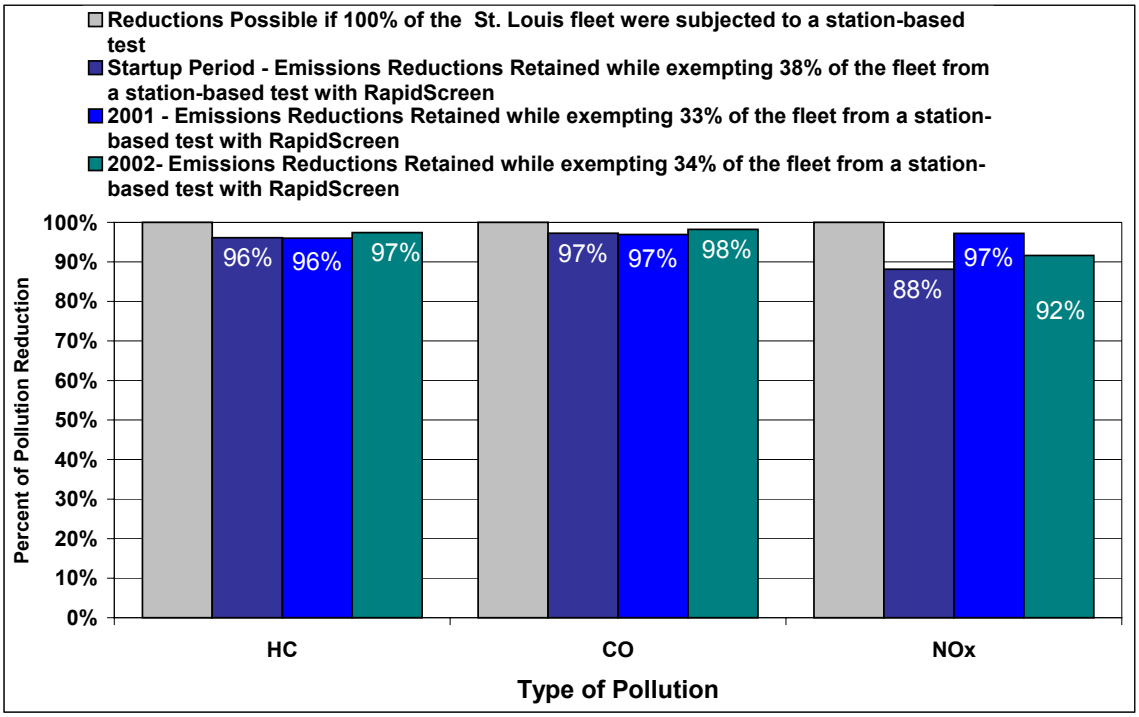
Also not calculated here are the reductions in evaporative emissions resulting from gas cap testing. In Table IV-5, it was estimated the RapidScreen program retains 85% of the potential HC reductions from gas cap testing.

Table VI-7 also shows that, during the period covered by this RapidScreen Report, 133,606 vehicles were RapidScreened, and 567,418 vehicles received a station test. Therefore, 19% out of the 699,815 unique vehicles considered in this analysis were RapidScreened.

Vehicles less than two years old are statutorily exempt from inspection because the emission reductions that would be obtained by subjecting them to inspection and repair would be extremely small, if any. The vehicles less than two years old are estimated to be 15% of registered vehicles. The total RapidScreened vehicles make up 34% of registrations (19% exempted from a station test via RapidScreen + 15% exempted from a station test by statute).

Figure VI-1 illustrates the percentage of potential emission reductions retained by the Gateway Clean Air program while exempting 34% of vehicles from inspection[i]. The percentages shown relate to the potential reduction for each year. As noted above, the tons of I/M program emissions reductions were greater in 2002 than in 2001.

Figure VI-1 Air Quality Impact of RapidScreen



Figures VI-2 and VI-3 show the annual HC inventory and reductions by model year and vehicle type for the vehicles tested in 2001, based on the IM240 driving cycle. In these two charts, the reductions and remaining emissions of all vehicles older than 1981 are included with the reductions and remaining emissions of 1981 vehicles. The biennial testing cycle of the Enhanced area causes the difference between the sizes of the bars for odd model year vehicles vs. even model year vehicles.

[i] It is assumed that no additional reductions would be obtained by testing vehicles less than two years old.

These two charts indicate that older vehicles, which are fewer in number and driven fewer miles each year, still contribute a large portion to the HC emissions inventory in the St. Louis moderate ozone nonattainment area.

Figure VI-2 LDGV Reductions and Remaining Emissions

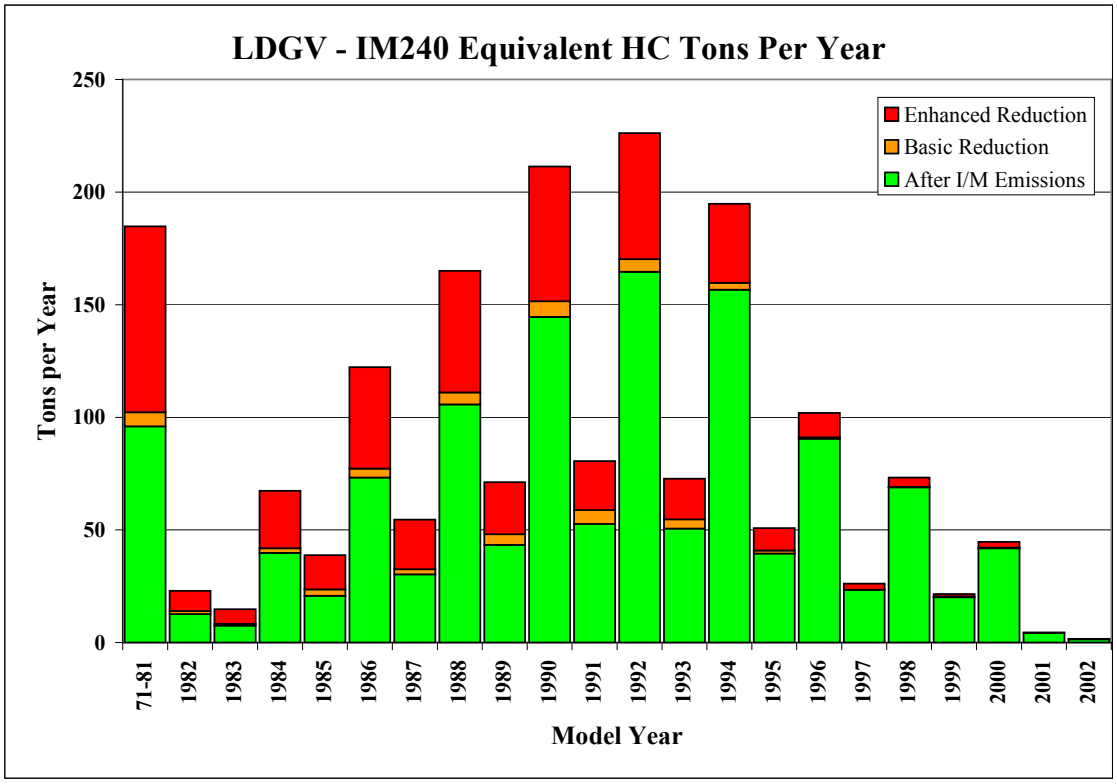
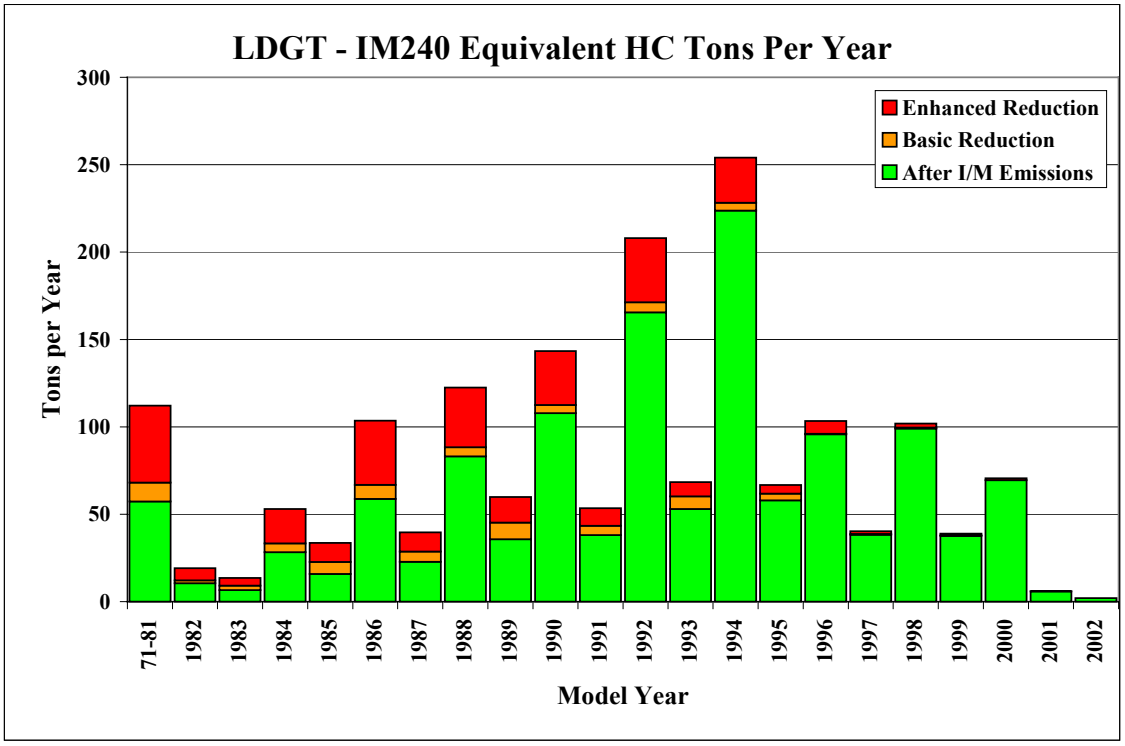


Figure VI-3 LDGT Reductions and Remaining Emissions



Figures VI-4 through Figures VI-9 illustrate the distribution of the reductions by model year and vehicle type for HC, CO and NOx. In these two charts, the reductions and remaining emissions of all vehicles older than 1981 are included with the reductions and remaining emissions of 1981 vehicles.

Figure VI-4 LDGV HC Reductions

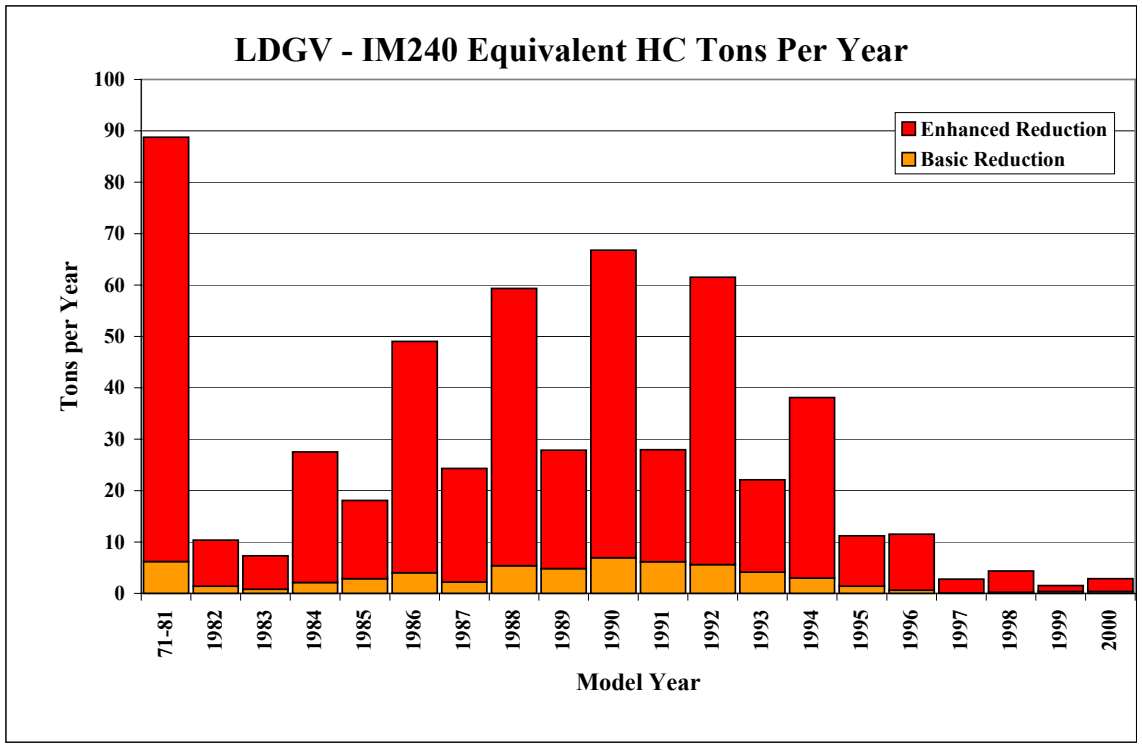


Figure VI-5 LDGT HC Reductions

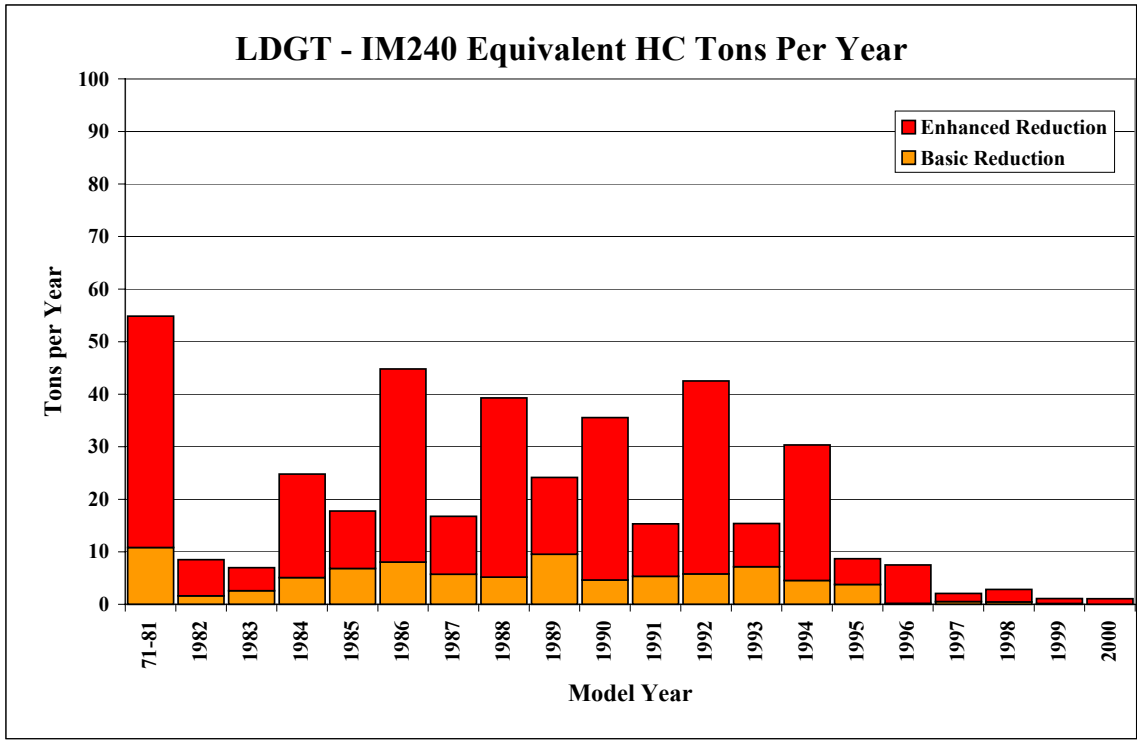


Figure VI-6 LDGV CO Reductions

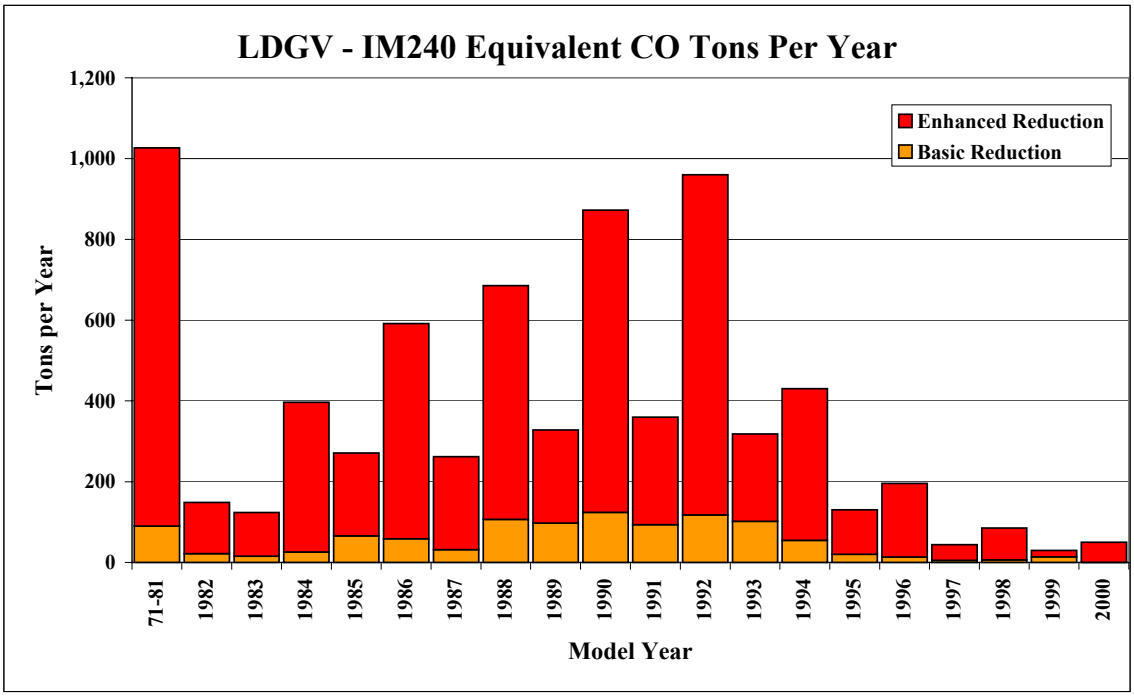


Figure VI-7 LDGT CO Reductions

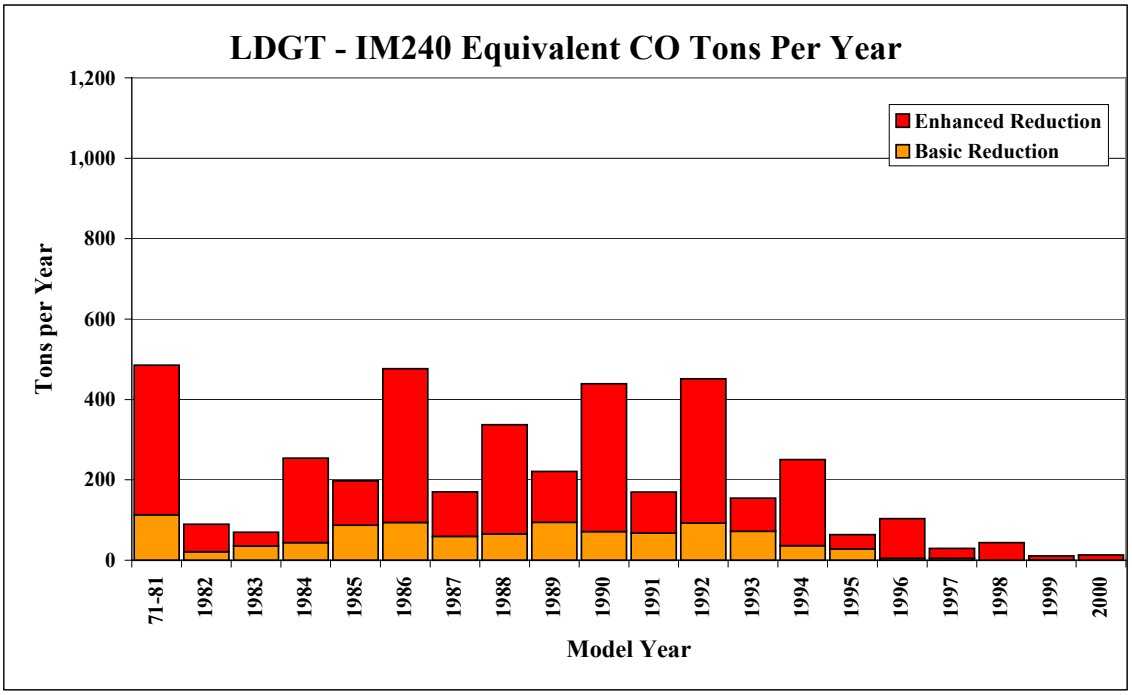


Figure VI-8 LDGV NOx Reductions

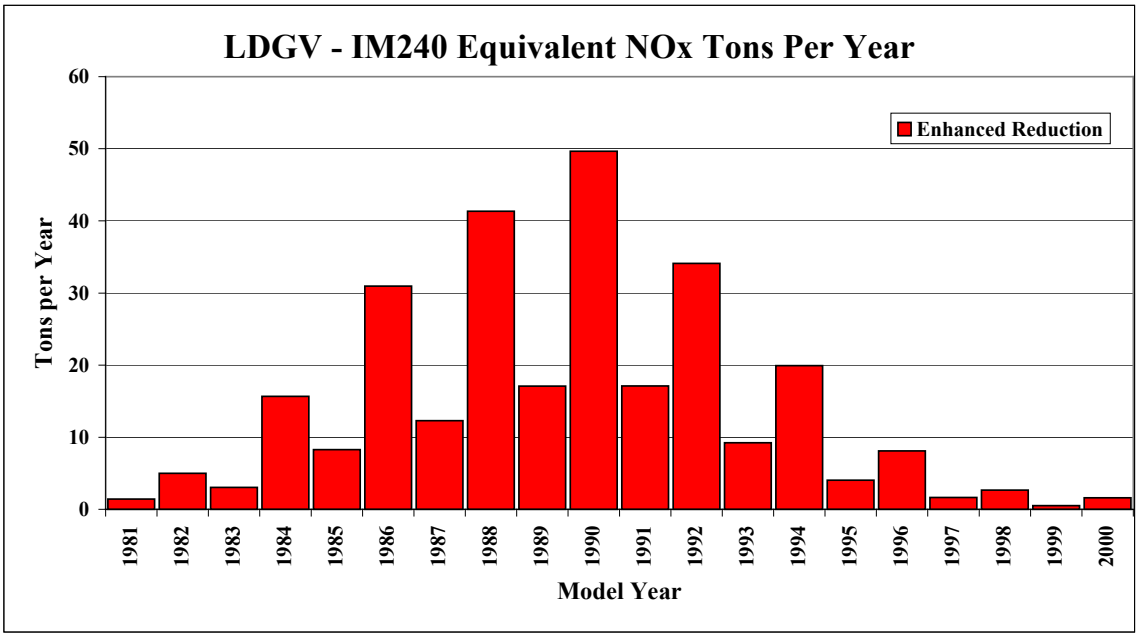
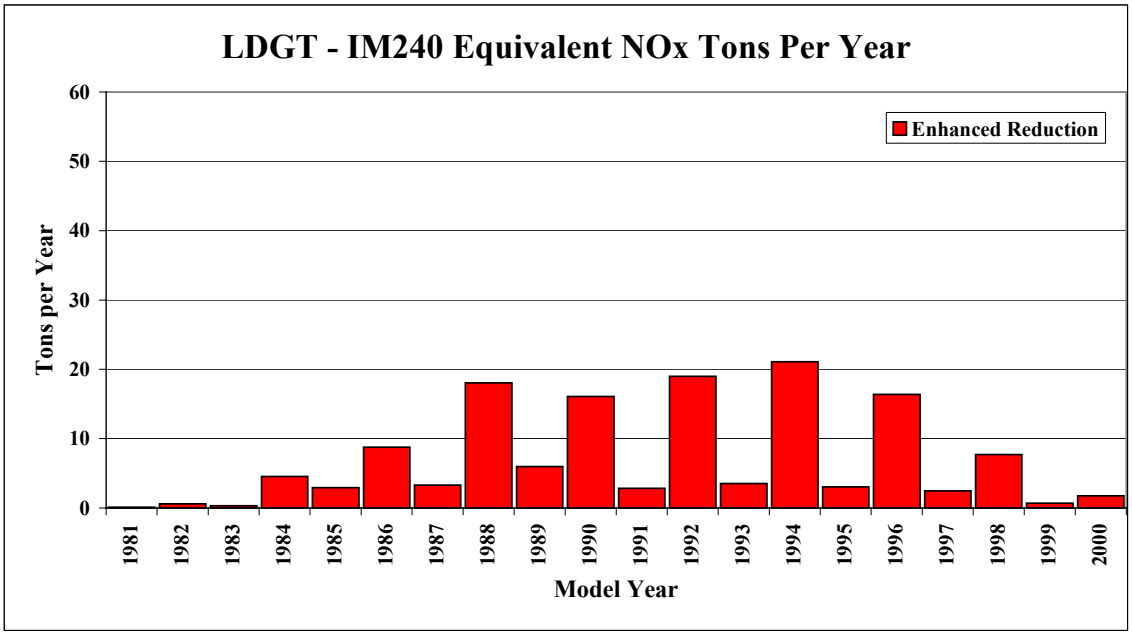


Figure VI-9 LDGT NOx Reductions



VII. Program Modifications and Additional Evaluation

A. Suggestions for Program Modifications

1. Emissions Measurements for Vehicles Inspected Using OBD II

In the Enhanced area beginning in December 2002, 1996 and newer model year vehicles that passed the OBD II test were no longer subject to the IM240 tailpipe test. Therefore, in 2003 almost 75% of RapidScreen audit vehicles will not have emissions measurements available for evaluation. Fortunately, vehicles that fail the OBD II test will receive a tailpipe test and their initial emissions inspection will be available for analysis provided they are adequately identified in the database. However, there will be no way to assess the emissions of RapidScreen audit or non-RapidScreened vehicles that pass the OBD II test and hence no way to determine the size of the program emission reductions vs. the total emissions inventory.

Two approaches are possible:

1) Obtain and compare remote sensing measurements from a non-I/M city to determine I/M effectiveness. This is known as the 'reference' method of I/M evaluation.

2) Perform tailpipe tests on a sample of the vehicles eligible for OBD testing, e.g. 1% of these vehicles, and the RapidScreen audit vehicles. This is known as obtaining 'in-program data'.

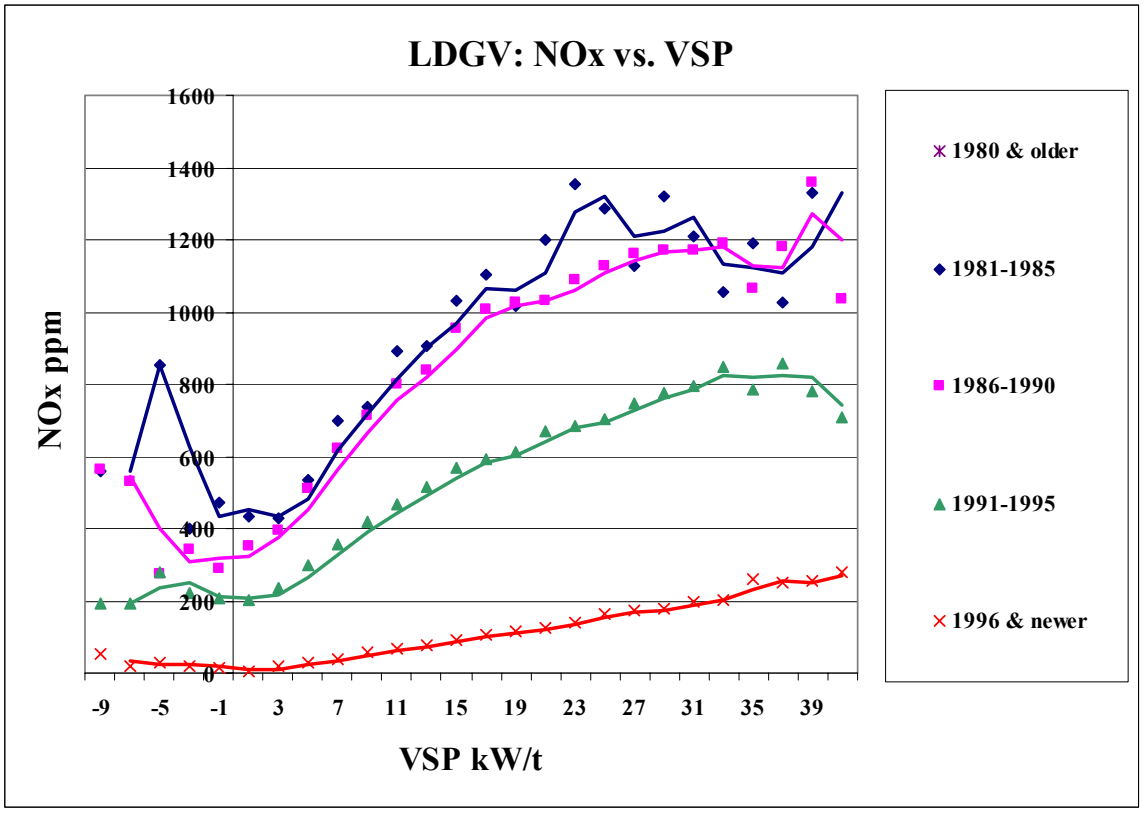
Our recommendation is that both measures be adopted because both have strengths and weaknesses in facilitating the evaluation of an I/M program. Using reference method to compare I/M vs. non-I/M fleets is useful for determining the cumulative impact of the program. However, results can be confounded by site and socio economic differences between the two areas being compared. Obtaining 'in-program data' provides detailed information about the emission levels of vehicles in a controlled environment, can be used to determine the emission reductions obtainable from vehicle repairs and can confirm the effectiveness of OBD systems. But 'in-program data' cannot enable determination of the cumulative benefits of several years of an I/M program.

2. Investigate Applying a VSP Adjustment to Remote Sensing NOx Measurements

On-road NOx emission concentrations depend linearly on the engine power of the vehicle at the time it is measured over the moderate power range. At higher power, the fuel/air mixture is enriched and the NOx concentration may flatten or decline. This is illustrated in Figure VII-1, which shows results from a recent Virginia study[10]. Vehicles that are measured by remote sensing at low power levels could meet the RapidScreen standards for NOx but not be very clean at typical IM240 power levels. Others measured on-road at higher power levels may not be considered eligible for RapidScreen but could be functioning properly.

Adjusting the NOx value for VSP could improve RapidScreen effectiveness but requires further investigation.

Figure VII-1 NOx vs. VSP

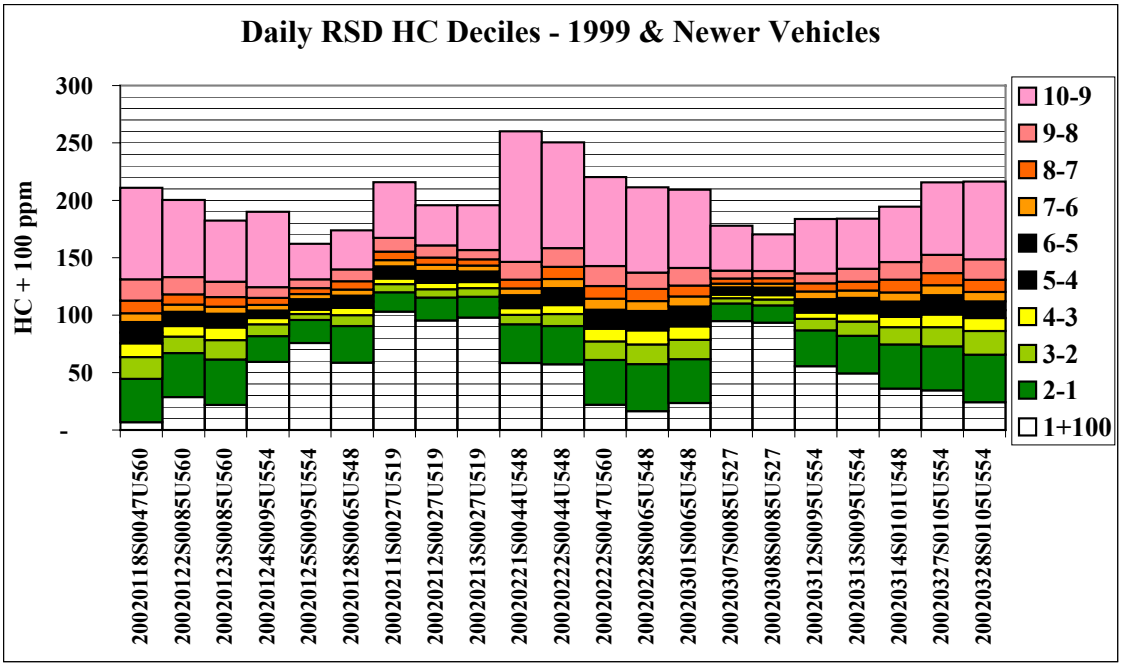


3. Investigate Using a Correction for Day-to-Day Shifts in Remote Sensing Emissions Values

Comparison of day-to-day remote sensing results for new vehicles reveals small day-to-day shifts in measured emission values. Figure VII-2 illustrates this effect for a small sample of the days. The x-axis labels indicate the date (yyyymmdd), site and remote sensing unit. The y-axis shows the HC measurement values plus 100 ppm[i]. The black bars show the spread between the 40th and 60th percentiles. The median value is approximately the center of the black bar and is should be the same from day-to-day. The sample shows that day-to-day values vary +/-25 ppm from the norm, which are suspected to be either variances in the system set-up each day or site related. Whatever the cause, it is likely the day-to-day results can be made more comparable by shifting each days results so that the median values are aligned.

[i] The false origin was required for the Microsoft Excel stack bar chart to work correctly.

Figure VII-2 Day-to-day HC Decile Values



B. Suggestions for Additional Evaluation

1. Model Year Comparison with Mobile6

The remote sensing and in-program emissions measurements provide real world data for comparing to the EPA Mobile model that is used to predict the impact of various mobile source pollution control strategies. A comparison by model year for vehicles and trucks of the predicted and actual emissions contributions and the I/M reductions will reveal how the actual program effectiveness compares to the model prediction. The results of the comparison could suggest modifications to the program design or to the Mobile model.

2. Evaluate High Emitter Identification

It is clear from the emissions deciles of vehicles measured on-road (See section V. B.) that there are considerable excess emissions remaining among a small percentage of older vehicles. These results indicate that vehicle emissions do increase between biennial inspections and, possibly, that vehicle owners choose to pay for short cut repairs that do not last for two years. If these high emitting vehicles were required to come in for an emission inspection between test cycles, the effectiveness of the Gateway Clean Air Program would be improved.

A simulation of the effectiveness of high emitter identification could be undertaken to evaluate alternative identification protocols and the impact of off-cycle emission inspections on program effectiveness.

3. Evaluate Evaporative Emissions Index

The existing low emitter index does not incorporate any estimates of evaporative emissions. The gas cap failures are much more randomly distributed across vehicles by model year than are tailpipe emission failures. Nevertheless, it may be worth investigating whether there are any sufficiently high gas cap failure rates for specific make/models, i.e. pattern failures that would make it worth disallowing these make/models from being RapidScreened.

4. Quantify Pre-Inspection Repair Benefits

The on-road measurements of vehicles before and after their I/M inspection, which are reported in section V-C, strongly suggest that substantial vehicle maintenance is being performed by owners before bringing vehicles for their initial inspection. The benefit of this 'pre-inspection' maintenance cannot be properly accounted by looking only at the I/M inspection emission test results, but it may be a very sizeable component of the overall I/M program benefit that should be quantified.

Appendix A – RapidScreen Coverage

- **A1 – RapidScreen Sites**
- **A2 – RapidScreen Coverage by ZIP Code**
- **A3 – RapidScreen Coverage by Year, Make and Model**

Appendix A Notes

Appendix A1

Although the site references number as high as 107, the actual number of sites used was only 71. Some candidate sites were rejected and use of some sites has been discontinued.

Appendix A1 – RapidScreen Sites Used

Site Ref	Type	Description	Township	Zip Code	Slope Degr	VSP kW/t
3	Freeway Entrance	Brentwood Rd. SB on to I - 64 W.	Richmond Heights	63117	2.3	14.6
4	Freeway Entrance	Lindbergh Rd. NB on to I-64 E.	Ladue	63124	0.4	18.4
5	Freeway Entrance	Jefferson St. on to I - 44 W.	N/A	63104	2.1	19.0
8	Freeway Entrance	Elm Ave. on to I - 44 E.	Webster Groves	63119	2.3	18.0
9	Freeway Entrance	Blendon Pl. on to I - 64 W.	Richmond Heights	63117	2.0	16.3
11	Freeway Entrance	Bates Rd. on to I - 55 N.	N/A	63111	1.6	19.2
12	Freeway Entrance	Carondolet Blvd. on to I - 55 S.	Wilbur Park	63123	2.9	20.0
13	Freeway Entrance	Reavis Barracks Rd. on to I - 55 S.	Unincorporated	63123	3.4	21.6
14	Freeway Entrance	Germana Rd. on to I - 55 N.	N/A	63111	2.3	19.1
17	Freeway Entrance	East Grand St. onto I 70 W	N/A	63107	1.4	18.5
18	Freeway Entrance	Airflight Dr./Pear Tree Lane on to I - 70 E.	Edmunson	63145	-0.4	16.8
21	Freeway Entrance	Jennings Station Rd. N. on to I - 70 W.	Pine Lawn	63120	1.6	20.1
27	Freeway Entrance	Clarkson Rd./ Olive St. on to Rte. 40/I-64 E.	Chesterfield	63107	0.6	18.4
28	Freeway Entrance	Ladue Rd. on to I - 270 S.	Creve Coeur	63141	0.1	19.6
29	Freeway Entrance	Dorsett Rd. on to I - 270 S.	Maryland Heights	63043	1.8	20.6
32	Freeway Entrance	Rte. 67 S. on to I - 70 W.	Bridgeton	63044	1.8	18.1
33	Freeway Entrance	Lucas - Hunt N. on to I - 70 E.	Northwoods	63121	-1.1	15.9
34	Freeway Entrance	Lucas - Hunt S. on to I - 70 E.	Northwoods	63121	-1.6	10.7
35	Freeway Entrance	Richardson Rd. WB on to I - 55 N.	Arnold	63010	-2.5	13.8
36	Freeway Entrance	Rte. 141 S. on to I - 55 N.	Arnold	63010	-2.8	15.6
37	Freeway Entrance	Lindberg/Kirkwood St. on to I - 44 W.	Kirkwood	63126	2.8	21.9
40	Freeway Entrance	Hanley Rd. S. on to Rte. 40/I-64 W.	Richmond Heights	63117	-1.8	14.3
41	Freeway Entrance	Hanley Rd. N. on to Rte. 40/I-64 W.	Richmond Heights	63117	-1.8	7.7
42	Freeway Entrance	Page Rd. on to I - 170 N.	Vinita Park	63114	2.7	17.2
43	Freeway Entrance	St. Charles Rock on to I - 170 S.	St. John	63114	1.9	18.8
44	Freeway Entrance	Forest Park Parkway on to I - 170 N.	Clayton	63124	2.0	17.6
45	Freeway Entrance	Main St. (M & K) on to I - 70 E.	O'Fallon	63366	1.3	19.9
46	Freeway Entrance	Salt Lick Rd. (Rte. 79) N. on to I - 70 E.	St. Peters		-0.4	8.3
47	Freeway Entrance	Cave Springs Rd. on to I - 70 E.	St. Peters	63376	-1.8	16.1
48	Freeway Entrance	Zumbehl Rd. on to I - 70 E.	St. Charles	63301	-1.8	13.9
49	Freeway Entrance	Long Rd. on to Rte. 40/I-64 E.	Chesterfield	63005	0.1	14.2
50	Freeway Entrance	Chesterfield Rd./Airport Rd. on to Rte. 64 W.	Chesterfield	63005	2.2	20.0
55	Surface	Redman Rd. EB W. of Jerries Rd.	Blackjack	63033	1.7	10.6
56	Surface	Parker Rd. WB between New & Old Halls Ferry Rd.	Blackjack	63033	3.7	12.0
57	Freeway Entrance	New Halls Ferry Rd./Dunn Rd. on to I-270 W.	Blackjack	63033	3.6	20.5

Appendix A1 – RapidScreen Sites cont'd

Site Ref	Type	Description	Township	Zip Code	Slope Degr	VSP kW/t
59	Freeway Entrance	Dunn Rd./New Florissant Rd. on to I-270 W.	Florissant	63033	2.3	18.8
62	Surface	Rte. 109 SB S. of Rte. 100.	Wildwood	63040	1.9	12.8
63	Freeway Entrance	McDonnell Blvd. On to I-270 E.	Hazelwood	63042	-1.0	16.8
65	Freeway Entrance	Howdershell Rd./McDonnel Blvd. SB on to I-270 W.	Hazelwood	63042	-1.6	17.2
68	Freeway Entrance	Earth City Expressway NB on to Rte. 370 E.	Bridgeton	63044	-1.0	17.9
70	Freeway Entrance	Gray Summit Rd. on to I-44 E.	Gray Summit	63069	-2.7	18.3
71	Freeway Entrance	St. Charles Rock Rd. WB on to Lindberg/67 N.	St. Ann	63074	1.2	16.8
72	Surface	Cypress Rd./B NB between Int. Plaza & St. Lawrence	St. Ann	63074	-1.1	12.2
73	Freeway Entrance	Rte. 47 on to I-44 E.	St. Clair	63077	-1.8	14.6
74	Surface	Ashby Rd on to westbound Midland Blvd	Overland	63114	-2.0	15.1
76	Freeway Entrance	Florissant NB on to I-270 E.	Calverton Park	63135	2.3	19.2
77	Freeway Entrance	Bellefontaine Rd. SB on to I-270 W.	Bellefontaine	63138	2.3	19.1
79	Surface	Craig Rd. NB @ Debonnaire	Creve Coeur	63146	-0.5	8.9
80	Surface	McNutt Rd. WB at Commercial Blvd. (Rte. 67)	Herculaneum	63048	0.6	14.2
81	Freeway Entrance	McNutt Rd. WB on to I - 55 N.	Herculaneum	63048	1.4	21.1
82	Freeway Entrance	Rte. Z WB on to I - 55 N.	Pevely	63070	2.3	20.7
84	Freeway Entrance	Rte. 110 EB on to Rte. 67 N.	Olympian Village	63020	-0.9	14.5
85	Freeway Entrance	Kingshighway SB on to I - 44 W.	N/A	63110	0.5	13.8
86	Freeway Entrance	McKnight Rd. NB (at Delmar Blvd.) on to I - 170 N.	University City	63130	-1.0	7.6
87	Freeway Entrance	Meramac Bottom Rd. on to I - 55 N.	Fenton	63129	-0.7	23.0
91	Surface	Green Park Rd. EB 1/2 block E. of Cedar Berry Pl.	Lakeshire	63123	3.7	12.0
93	Entrance	Airflight Dr./ on to I - 70 W	Edmunson	63145	2.3	17.6
94	Freeway Entrance	Grand Blvd. on to I - 44 W.	N/A	63110	-0.5	19.8
95	Freeway Entrance	Rte. 141 onto 40/61West	Town & Country	63017	2.2	17.4
96	Freeway Entrance	Airport Road onto I-170 South	Berkeley	63134	0.9	18.9
97	Freeway Entrance	Rte. 94 (1st Capital) onto I-70 West	St. Charles	63301	-0.1	18.2
98	Freeway Entrance	Rte. 94 onto Hwy. 370 West	St. Charles	63301	2.0	21.0
99	Freeway Entrance	Elm Street onto Hwy. 370 East	Unincorporated	63301	1.7	21.2
100	Freeway Entrance	Zumbehl Rd. onto I-70 West	St. Charles	63301	-1.4	19.9
101	Freeway Entrance	Bryan Road onto I-70 East	O' Fallon	63366	-1.3	17.1
102	Freeway Entrance	Lake St. Louis Blvd. Onto I-70 East	Lake St. Louis	63367	-1.9	17.4
103	Freeway Entrance	Big Bend Rd. onto I-270 North	Kirkwood	63122	-2.3	16.5
104	Freeway Entrance	Bayless onto I-55 South	Affton	63123	1.2	18.5
105	Freeway Entrance	Page Ave. onto I-170 South	Overland	63114	2.5	17.3
106	Freeway Entrance	St. Charles Rk. Rd. onto I-170 North	St. John	63114	2.0	20.7
107	Freeway Entrance	Hwy. 141 onto I-44 West	Valley Park	63088	1.3	19.2
Total	71					

Appendix A2 – RapidScreen Coverage by ZIP Code

Zip Code	Description	RapidScreen RSD	RapidScreen Hybrid	Total RS	Station Tests	Total	% RS
63001		2	1	3	25	28	11%
63005	CHESTERFIELD	1,348	498	1,846	3,862	5,708	32%
63006		27	18	45	97	142	32%
63010	ARNOLD	1,809	741	2,550	10,069	12,619	20%
63011	MANCHESTER	1,912	1,029	2,941	10,500	13,441	22%
63012	BARNHART	381	200	581	3,079	3,660	16%
63013	BEAUFORT	8	9	17	1,098	1,115	2%
63014	BERGER	2	2	4	438	442	1%
63015	CATAWISSA	34	21	55	996	1,051	5%
63016	CEDAR HILL	134	116	250	2,766	3,016	8%
63017	TOWN AND COUNTRY	2,432	1,263	3,695	10,032	13,727	27%
63019	CRYSTAL CITY	211	98	309	1,190	1,499	21%
63020	DE SOTO	533	382	915	6,122	7,037	13%
63021	BALLWIN	2,383	1,406	3,789	14,809	18,598	20%
63022		10	5	15	61	76	20%
63023	DITTMER	73	71	144	1,805	1,949	7%
63025	CRESCENT	544	323	867	3,081	3,948	22%
63026	FENTON	1,758	1,065	2,823	12,840	15,663	18%
63028	FESTUS	683	523	1,206	6,984	8,190	15%
63030	FLETCHER	2	2	4	47	51	8%
63031	FLORISSANT	3,261	1,278	4,539	12,678	17,217	26%
63032		32	13	45	121	166	27%
63033	FLORISSANT	3,168	1,056	4,224	10,932	15,156	28%
63034	FLORISSANT	1,278	483	1,761	4,266	6,027	29%
63037	GERALD	13	16	29	1,781	1,810	2%
63038	GLENCOE	366	180	546	1,576	2,122	26%
63039	GRAY SUMMIT	22	18	40	617	657	6%
63040	GROVER	462	222	684	1,719	2,403	28%
63041			7	7	216	223	3%
63042	HAZELWOOD	1,386	441	1,827	5,284	7,111	26%
63043	MARYLAND HEIGHTS	1,882	577	2,459	5,876	8,335	30%
63044	BRIDGETON	768	367	1,135	3,688	4,823	24%
63045	BRIDGETON	83	20	103	188	291	35%
63047		4	2	6	70	76	8%
63048	HERCULANEUM	203	61	264	767	1,031	26%
63049	HIGH RIDGE	385	287	672	5,062	5,734	12%
63050	HILLSBORO	302	233	535	4,754	5,289	10%
63051	HOUSE SPRINGS	278	197	475	4,385	4,860	10%
63052	ANTONIA	861	485	1,346	6,624	7,970	17%
63053		3	2	5	46	51	10%
63055	LABADIE	74	31	105	1,218	1,323	8%
63056	LESLIE	14	9	23	1,180	1,203	2%
63057		2	1	3	17	20	15%
63060	LONEDELL	15	10	25	1,364	1,389	2%
63061	LUEBBERING		1	1	163	164	1%
63065		2	5	7	52	59	12%
63066		2	3	5	58	63	8%
63068	NEW HAVEN	13	16	29	2,770	2,799	1%
63069	PACIFIC	338	243	581	5,862	6,443	9%
63070	PEVELY	269	126	395	1,728	2,123	19%
63072	ROBERTSVILLE	52	29	81	1,773	1,854	4%

Appendix A2 – RapidScreen Coverage by ZIP Code cont'd

Zip Code	Description	RapidScreen RSD	RapidScreen Hybrid	Total RS	Station Tests	Total	% RS
63074	SAINT ANN	665	308	973	4,387	5,360	18%
63077	SAINT CLAIR	71	58	129	6,261	6,390	2%
63080	SULLIVAN	31	38	69	5,234	5,303	1%
63084	UNION	77	79	156	8,585	8,741	2%
63087		4	4	8	87	95	8%
63088	VALLEY PARK	350	162	512	2,169	2,681	19%
63089	VILLA RIDGE	75	61	136	3,247	3,383	4%
63090	WASHINGTON	131	109	240	12,276	12,516	2%
63101	SAINT LOUIS	75	25	100	577	677	15%
63102	SAINT LOUIS	36	22	58	267	325	18%
63103	SAINT LOUIS	139	45	184	810	994	19%
63104	SAINT LOUIS	434	249	683	3,637	4,320	16%
63105	CLAYTON	972	318	1,290	3,084	4,374	29%
63106	SAINT LOUIS	111	55	166	1,347	1,513	11%
63107	SAINT LOUIS	170	83	253	2,269	2,522	10%
63108	SAINT LOUIS	481	251	732	3,397	4,129	18%
63109	SAINT LOUIS	1,134	662	1,796	7,797	9,593	19%
63110	SAINT LOUIS	468	254	722	4,050	4,772	15%
63111	SAINT LOUIS	565	238	803	4,667	5,470	15%
63112	SAINT LOUIS	397	191	588	3,881	4,469	13%
63113	SAINT LOUIS	152	93	245	2,659	2,904	8%
63114	OVERLAND	1,704	695	2,399	10,965	13,364	18%
63115	SAINT LOUIS	342	210	552	4,468	5,020	11%
63116	SAINT LOUIS	1,184	758	1,942	12,101	14,043	14%
63117	RICHMOND HEIGHTS	544	235	779	2,757	3,536	22%
63118	SAINT LOUIS	381	192	573	5,091	5,664	10%
63119	WEBSTER GROVES	1,698	887	2,585	9,172	11,757	22%
63120	SAINT LOUIS	201	87	288	2,238	2,526	11%
63121	NORMANDY	1,178	471	1,649	6,989	8,638	19%
63122	KIRKWOOD	1,808	1,004	2,812	10,615	13,427	21%
63123	AFFTON	2,417	1,326	3,743	14,468	18,211	21%
63124	LADUE	1,236	487	1,723	3,753	5,476	31%
63125	LEMAY	1,367	745	2,112	9,280	11,392	19%
63126	SAPPINGTON	573	429	1,002	4,678	5,680	18%
63127	SAPPINGTON	235	134	369	1,352	1,721	21%
63128	SAPPINGTON	1,357	834	2,191	8,464	10,655	21%
63129	SOUTH COUNTY	2,503	1,411	3,914	14,543	18,457	21%
63130	UNIVERSITY CITY	1,353	618	1,971	7,745	9,716	20%
63131	DES PERES	936	512	1,448	4,769	6,217	23%
63132	OLIVETTE	856	300	1,156	4,142	5,298	22%
63133	SAINT LOUIS	257	107	364	2,229	2,593	14%
63134	BERKELEY	787	231	1,018	3,708	4,726	22%
63135	FERGUSON	1,223	440	1,663	5,430	7,093	23%
63136	JENNINGS	2,079	758	2,837	11,453	14,290	20%
63137	NORTH COUNTY	931	391	1,322	4,716	6,038	22%
63138	NORTH COUNTY	1,235	379	1,614	4,568	6,182	26%
63139	SAINT LOUIS	856	476	1,332	6,514	7,846	17%
63140	BERKELEY	10	1	11	68	79	14%
63141	CREVE COEUR	1,617	553	2,170	5,065	7,235	30%
63143	MAPLEWOOD	479	203	682	3,280	3,962	17%
63144	BRENTWOOD	645	247	892	2,630	3,522	25%
63145		14	5	19	47	66	29%

Appendix A2 – RapidScreen Coverage by ZIP Code cont'd

Zip Code	Description	RapidScreen RSD	RapidScreen Hybrid	Total RS	Station Tests	Total	% RS
63146	WEST COUNTY	1,822	829	2,651	7,724	10,375	26%
63147	SAINT LOUIS	327	185	512	2,685	3,197	16%
63301	SAINT CHARLES	2,334	1,182	3,516	12,269	15,785	22%
63302		37	6	43	179	222	19%
63303	SAINT CHARLES	2,105	1,097	3,202	11,331	14,533	22%
63304	SAINT CHARLES	1,639	1,017	2,656	10,444	13,100	20%
63332	AUGUSTA	25	20	45	384	429	10%
63338		5	1	6	37	43	14%
63341	DEFIANCE	164	96	260	987	1,247	21%
63346		5	2	7	23	30	23%
63348	FORISTELL	110	85	195	1,089	1,284	15%
63365		12	10	22	105	127	17%
63366	SAINT PAUL	4,618	1,550	6,168	15,691	21,859	28%
63367	LAKE SAINT LOUIS	882	265	1,147	2,770	3,917	29%
63373	PORTAGE DES SIOU	27	16	43	214	257	17%
63376	SAINT PETERS	4,241	1,758	5,999	18,084	24,083	25%
63385	WENTZVILLE	669	378	1,047	4,749	5,796	18%
63386	WEST ALTON	14	8	22	173	195	11%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
2001	ACUR	3.0 CL	2	0	2	9	22%
2001	ACUR	3.2 CL	3	0	3	14	21%
2001	ACUR	3.2 CS	1	0	1	2	50%
2001	ACUR	3.2 TL	1	0	1	26	4%
2001	ACUR	3.2TL	1	0	1	6	17%
2001	ACUR	INTEGRA	1	0	1	16	6%
2001	ACUR	LEGEND	1	0	1	4	25%
2001	ACUR	MDX	9	0	9	15	60%
2001	ACUR	SE	1	0	1	3	33%
2001	AUDI	A4	2	0	2	22	9%
2001	AUDI	A6	1	0	1	9	11%
2001	BMW	3.0SI	1	0	1	9	11%
2001	BMW	325I	7	0	7	53	13%
2001	BMW	325XI	1	0	1	1	100%
2001	BMW	330CI	1	0	1	4	25%
2001	BMW	524	1	0	1	1	100%
2001	BMW	525I	1	0	1	21	5%
2001	BMW	530I	3	0	3	13	23%
2001	BMW	740I	1	0	1	20	5%
2001	BMW	X5	1	0	1	6	17%
2001	BUIC	CENTURY	9	0	9	276	3%
2001	BUIC	LESABRE	8	0	8	130	6%
2001	BUIC	PARK AVENUE	4	0	4	28	14%
2001	BUIC	REGAL	10	0	10	155	6%
2001	CADI	DEVILLE	3	0	3	118	3%
2001	CADI	SEVILLE	1	0	1	22	5%
2001	CHEV	ASTRO VAN	1	0	1	16	6%
2001	CHEV	BLAZER	10	0	10	375	3%
2001	CHEV	C1500	8	0	8	154	5%
2001	CHEV	CAVALIER	22	1	23	700	3%
2001	CHEV	CORVETTE	1	0	1	49	2%
2001	CHEV	EXPRESS	2	0	2	20	10%
2001	CHEV	IMPALA	21	0	21	286	7%
2001	CHEV	LUMINA	5	0	5	281	2%
2001	CHEV	MALIBU	14	0	14	627	2%
2001	CHEV	MONTE CARLO	5	0	5	133	4%
2001	CHEV	OTHER	1	0	1	1	100%
2001	CHEV	PRIZM	2	0	2	111	2%
2001	CHEV	S10	11	0	11	205	5%
2001	CHEV	SILVERADO	10	0	10	186	5%
2001	CHEV	SUBURBAN	7	1	8	136	6%
2001	CHEV	TRACKER	1	0	1	83	1%
2001	CHEV	T-SERIES	1	0	1	12	8%
2001	CHEV	VENTURE	9	0	9	110	8%
2001	CHRY	300M	4	0	4	48	8%
2001	CHRY	CONCORDE	4	0	4	46	9%
2001	CHRY	PT CRUISER	6	0	6	34	18%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
2001	CHRY	SEBRING	4	0	4	273	1%
2001	CHRY	TOWN & COUNTRY	15	1	16	153	10%
2001	DODG	B350	1	0	1	1	100%
2001	DODG	CARAVAN	24	0	24	425	6%
2001	DODG	DAKOTA	11	0	11	217	5%
2001	DODG	DURANGO	11	0	11	151	7%
2001	DODG	INTREPID	6	0	6	339	2%
2001	DODG	NEON	6	0	6	165	4%
2001	DODG	RAM 1500	13	0	13	373	3%
2001	DODG	RAM VAN	1	0	1	2	50%
2001	DODG	STRATUS	8	0	8	258	3%
2001	FORD	CROWN VICTORIA	2	0	2	31	6%
2001	FORD	E	1	0	1	22	5%
2001	FORD	E100	1	0	1	11	9%
2001	FORD	E250	1	0	1	5	20%
2001	FORD	ECONOLINE	8	0	8	28	29%
2001	FORD	ESCAPE	3	0	3	40	8%
2001	FORD	ESCORT	7	0	7	415	2%
2001	FORD	EXPEDITION	9	1	10	166	6%
2001	FORD	EXPLORER	18	1	19	797	2%
2001	FORD	F150	35	0	35	457	8%
2001	FORD	F250	3	0	3	5	60%
2001	FORD	FOCUS	19	1	20	378	5%
2001	FORD	MUSTANG	2	1	3	378	1%
2001	FORD	RANGER	14	0	14	327	4%
2001	FORD	TAURUS	21	1	22	1301	2%
2001	FORD	WINDSTAR	16	0	16	385	4%
2001	GMC	1500	2	0	2	19	11%
2001	GMC	DENALI	2	0	2	35	6%
2001	GMC	JIMMY	6	0	6	84	7%
2001	GMC	SAFARI	2	0	2	32	6%
2001	GMC	SAVANA	1	0	1	6	17%
2001	GMC	SIERRA	5	0	5	69	7%
2001	GMC	SONOMA	2	0	2	27	7%
2001	GMC	YUKON	22	1	23	152	15%
2001	HOND	ACCORD	35	0	35	202	17%
2001	HOND	CIVIC	12	0	12	156	8%
2001	HOND	CR-V	10	0	10	80	13%
2001	HOND	ODYSSEY	22	0	22	67	33%
2001	HYUN	ACCENT	1	0	1	130	1%
2001	HYUN	ELANTRA	6	0	6	243	2%
2001	HYUN	SANTA FE	1	0	1	16	6%
2001	HYUN	SONATA	6	0	6	222	3%
2001	HYUN	TIBURON	1	0	1	46	2%
2001	INFI	G20	1	0	1	5	20%
2001	INFI	I30	8	0	8	72	11%
2001	INFI	Q45	1	0	1	5	20%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
2001	INFI	QX4	9	0	9	36	25%
2001	ISU	AMIGO	1	0	1	1	100%
2001	ISU	RODEO	5	0	5	40	13%
2001	ISU	TROOPER	2	0	2	15	13%
2001	JAGU	S-TYPE	1	0	1	15	7%
2001	JAGU	XK8	1	0	1	2	50%
2001	JEEP	CHEROKEE	17	0	17	296	6%
2001	JEEP	GRAND CHEROKEE	14	0	14	209	7%
2001	JEEP	WRANGLER	3	0	3	74	4%
2001	KIA	OPTIMA	2	0	2	7	29%
2001	KIA	RIO	2	0	2	9	22%
2001	KIA	SPORTAGE	1	0	1	108	1%
2001	LEXS	ES 300	3	1	4	39	10%
2001	LEXS	GS 430	1	0	1	3	33%
2001	LEXS	LS 400	1	0	1	6	17%
2001	LEXS	LS 430	1	0	1	8	13%
2001	LEXS	LX 470	1	0	1	9	11%
2001	LEXS	RX 300	5	0	5	53	9%
2001	LINC	CONTINENTAL	6	0	6	36	17%
2001	LINC	LS	5	0	5	64	8%
2001	LINC	NAVIGATOR	3	0	3	42	7%
2001	LINC	TOWN CAR	2	0	2	154	1%
2001	LNDR	RANGE ROVER	1	0	1	4	25%
2001	MAZD	626	4	1	5	278	2%
2001	MAZD	B3000	1	0	1	6	17%
2001	MAZD	MPV VAN	3	0	3	45	7%
2001	MAZD	NAVAJO	1	0	1	4	25%
2001	MAZD	PROTEGE	3	0	3	122	2%
2001	MAZD	TRIBUTE	2	0	2	16	13%
2001	MERC	COUGAR	1	0	1	37	3%
2001	MERC	GRAND MARQUIS	6	1	7	262	3%
2001	MERC	MOUNTAINEER	2	0	2	28	7%
2001	MERC	SABLE	5	0	5	314	2%
2001	MERC	VILLAGER	1	1	2	16	13%
2001	MERZ	240	2	0	2	12	17%
2001	MERZ	320	2	0	2	41	5%
2001	MERZ	500	1	0	1	12	8%
2001	MERZ	CLK320	1	0	1	15	7%
2001	MERZ	ML320	1	0	1	19	5%
2001	MITS	DIAMANTE	1	0	1	66	2%
2001	MITS	ECLIPSE	5	0	5	151	3%
2001	MITS	MIRAGE	3	0	3	145	2%
2001	MITS	MONTERO	5	0	5	187	3%
2001	NISS	ALTIMA	11	0	11	276	4%
2001	NISS	FRONTIER	1	0	1	33	3%
2001	NISS	MAXIMA	10	0	10	146	7%
2001	NISS	PATHFINDER	4	0	4	58	7%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
2001	NISS	QUEST	1	0	1	10	10%
2001	NISS	SENTRA	8	0	8	54	15%
2001	NISS	XTERRA	3	0	3	47	6%
2001	OLDS	ALERO	9	0	9	397	2%
2001	OLDS	AURORA	3	0	3	84	4%
2001	OLDS	BRAVADA	4	0	4	20	20%
2001	OLDS	INTRIGUE	2	1	3	107	3%
2001	OLDS	SILHOUETTE	4	0	4	58	7%
2001	OTHER	OTHER	49	1	50	868	6%
2001	PLYM	NEON	4	0	4	53	8%
2001	PONT	AZTEK	1	0	1	7	14%
2001	PONT	BONNEVILLE	5	1	6	84	7%
2001	PONT	FIREBIRD	1	0	1	53	2%
2001	PONT	GRAND AM	11	0	11	682	2%
2001	PONT	GRAND PRIX	20	0	20	374	5%
2001	PONT	MONTANA	5	0	5	75	7%
2001	PONT	SUNFIRE	3	0	3	229	1%
2001	SAA	9/5	2	0	2	8	25%
2001	SAA	9-3	1	0	1	6	17%
2001	STRN	L200	2	0	2	13	15%
2001	STRN	LS	9	0	9	185	5%
2001	STRN	SC	3	0	3	49	6%
2001	STRN	SL	5	1	6	84	7%
2001	SUBA	FORESTER	5	0	5	20	25%
2001	SUBA	FWD	1	0	1	3	33%
2001	SUBA	LEGACY	1	0	1	11	9%
2001	SUZI	GRAND VITARA	1	0	1	68	1%
2001	TOYT	4RUNNER	4	0	4	63	6%
2001	TOYT	AVALON	4	1	5	44	11%
2001	TOYT	CAMRY	23	0	23	447	5%
2001	TOYT	CELICA	3	0	3	55	5%
2001	TOYT	COROLLA	12	0	12	253	5%
2001	TOYT	ECHO	2	0	2	22	9%
2001	TOYT	HIGHLANDER	2	0	2	6	33%
2001	TOYT	PRIUS	3	0	3	7	43%
2001	TOYT	RAV4	6	0	6	62	10%
2001	TOYT	SEQUOIA	2	0	2	7	29%
2001	TOYT	SIENNA	2	2	4	72	6%
2001	TOYT	TACOMA	1	0	1	37	3%
2001	TOYT	TUNDRA	3	0	3	28	11%
2001	VOLK	BEETLE	5	0	5	54	9%
2001	VOLK	JETTA	8	0	8	124	6%
2001	VOLK	PASSAT	4	0	4	42	10%
2001	VOLV	C70	1	0	1	6	17%
2001	VOLV	S40	3	0	3	45	7%
2001	VOLV	S60	3	0	3	9	33%
2001	VOLV	S80	1	0	1	21	5%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
2001	VOLV	V70	4	0	4	43	9%
2000	ACUR	3.2 TL	173	56	229	586	39%
2000	ACUR	3.5 RL	37	0	37	121	31%
2000	ACUR	3.5RL	1	0	1	16	6%
2000	ACUR	INTEGRA	25	6	31	173	18%
2000	AUDI	A4	29	5	34	111	31%
2000	AUDI	A6	36	6	42	95	44%
2000	AUDI	A8	3	0	3	14	21%
2000	AUDI	QUATTRO	26	2	28	87	32%
2000	AUDI	TT	16	2	18	59	31%
2000	BMW	3.0SI	1	0	1	1	100%
2000	BMW	323CI	43	6	49	130	38%
2000	BMW	323I	95	17	112	335	33%
2000	BMW	328	2	0	2	5	40%
2000	BMW	328I	33	10	43	129	33%
2000	BMW	38I	5	2	7	42	17%
2000	BMW	528I	60	18	78	263	30%
2000	BMW	528IT	1	0	1	1	100%
2000	BMW	540I	12	0	12	60	20%
2000	BMW	740I	27	0	27	142	19%
2000	BMW	750IL	1	0	1	11	9%
2000	BMW	M5	9	0	9	28	32%
2000	BMW	MCP	3	0	3	6	50%
2000	BMW	MRD	2	0	2	28	7%
2000	BMW	X5	1	0	1	2	50%
2000	BMW	Z3	32	11	43	159	27%
2000	BUIC	CENTURY	228	95	323	1115	29%
2000	BUIC	LESABRE	248	144	392	1289	30%
2000	BUIC	PARK AVENUE	60	23	83	284	29%
2000	BUIC	REGAL	99	47	146	454	32%
2000	CADI	CATERA	18	0	18	121	15%
2000	CADI	DEVILLE	125	59	184	670	27%
2000	CADI	ELDORADO	15	0	15	72	21%
2000	CADI	ESC	50	7	57	210	27%
2000	CADI	ESCALADE	1	0	1	28	4%
2000	CADI	PROF CHASSIS	1	0	1	14	7%
2000	CADI	SEVILLE	62	14	76	252	30%
2000	CHEV	ASTRO VAN	185	66	251	659	38%
2000	CHEV	BLAZER	404	170	574	2086	28%
2000	CHEV	C1500	12	0	12	46	26%
2000	CHEV	C20	2	0	2	2	100%
2000	CHEV	C2500	14	0	14	21	67%
2000	CHEV	C3500	8	0	8	12	67%
2000	CHEV	CAMARO	62	19	81	399	20%
2000	CHEV	CAVALIER	677	251	928	3086	30%
2000	CHEV	CORVETTE	20	26	46	248	19%
2000	CHEV	EXPRESS	70	0	70	226	31%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
2000	CHEV	G10	2	0	2	2	100%
2000	CHEV	G20	1	0	1	1	100%
2000	CHEV	G30	11	0	11	11	100%
2000	CHEV	GEO TRACKER	25	18	43	335	13%
2000	CHEV	IMPALA	427	172	599	1815	33%
2000	CHEV	K1500	107	38	145	442	33%
2000	CHEV	K2500	20	0	20	25	80%
2000	CHEV	K3500	7	0	7	12	58%
2000	CHEV	LUMINA	78	32	110	325	34%
2000	CHEV	MALIBU	571	182	753	2224	34%
2000	CHEV	METRO	30	11	41	297	14%
2000	CHEV	MONTE CARLO	136	56	192	600	32%
2000	CHEV	PRIZM	71	25	96	314	31%
2000	CHEV	S10	335	123	458	1759	26%
2000	CHEV	SILVERADO	835	126	961	3133	31%
2000	CHEV	SUBURBAN	127	21	148	437	34%
2000	CHEV	VENTURE	255	82	337	888	38%
2000	CHRY	300M	118	51	169	435	39%
2000	CHRY	CHRYSLER 300	1	0	1	11	9%
2000	CHRY	CIRRUS	103	28	131	444	30%
2000	CHRY	CONCORDE	99	45	144	478	30%
2000	CHRY	CONQUEST	2	0	2	4	50%
2000	CHRY	GRAND VOYAGER	4	0	4	26	15%
2000	CHRY	INTREPID	6	1	7	27	26%
2000	CHRY	LHS	51	17	68	214	32%
2000	CHRY	SEBRING	150	73	223	656	34%
2000	CHRY	TOWN & COUNTRY	311	69	380	1007	38%
2000	DAEW	LANOS	17	4	21	107	20%
2000	DAEW	LEGANZA	33	3	36	112	32%
2000	DAEW	NUBIRA	15	11	26	90	29%
2000	DODG	AVENGER	18	10	28	91	31%
2000	DODG	B350	10	0	10	10	100%
2000	DODG	CARAVAN	926	320	1246	3472	36%
2000	DODG	DAKOTA	313	54	367	1718	21%
2000	DODG	DURANGO	320	98	418	1269	33%
2000	DODG	INTREPID	373	113	486	1404	35%
2000	DODG	NEON	311	142	453	1679	27%
2000	DODG	RAM 1500	154	28	182	746	24%
2000	DODG	RAM 2500	8	0	8	17	47%
2000	DODG	RAM VAN	53	0	53	192	28%
2000	DODG	RAM WAGON	7	0	7	23	30%
2000	DODG	STRATUS	226	61	287	940	31%
2000	FORD	CLUB WAGON	1	0	1	1	100%
2000	FORD	CONTOUR	71	30	101	547	18%
2000	FORD	CROWN VICTORIA	46	29	75	460	16%
2000	FORD	ECONOLINE	261	0	261	574	45%
2000	FORD	ESCORT	246	90	336	1310	26%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
2000	FORD	EXCURSION	32	0	32	42	76%
2000	FORD	EXPEDITION	437	99	536	1420	38%
2000	FORD	EXPLORER	957	292	1249	3799	33%
2000	FORD	F150	749	184	933	2875	32%
2000	FORD	F250	63	0	63	66	95%
2000	FORD	F350	1	0	1	1	100%
2000	FORD	FOCUS	593	175	768	2722	28%
2000	FORD	MUSTANG	268	123	391	1439	27%
2000	FORD	RANGER	446	152	598	2366	25%
2000	FORD	TAURUS	718	309	1027	3668	28%
2000	FORD	WINDSTAR	654	188	842	2305	37%
2000	GEO	TRACKER	1	0	1	1	100%
2000	GMC	DENALI	14	3	17	56	30%
2000	GMC	JIMMY	155	48	203	672	30%
2000	GMC	SAFARI	133	16	149	512	29%
2000	GMC	SAVANA	146	0	146	549	27%
2000	GMC	SIERRA	216	40	256	883	29%
2000	GMC	SONOMA	101	30	131	521	25%
2000	GMC	YUKON	128	31	159	471	34%
2000	HOND	ACCORD	645	217	862	2639	33%
2000	HOND	CIVIC	354	152	506	1942	26%
2000	HOND	CR-V	225	34	259	834	31%
2000	HOND	INSIGHT	1	0	1	4	25%
2000	HOND	ODYSSEY	285	88	373	1008	37%
2000	HOND	PASSPORT	23	0	23	92	25%
2000	HOND	PRELUDE	10	0	10	65	15%
2000	HOND	S2000	1	0	1	60	2%
2000	HYUN	ACCENT	63	36	99	509	19%
2000	HYUN	ELANTRA	242	90	332	1049	32%
2000	HYUN	SONATA	164	63	227	631	36%
2000	HYUN	TIBURON	37	21	58	226	26%
2000	INFI	G20	66	14	80	177	45%
2000	INFI	I30	160	42	202	546	37%
2000	INFI	Q45	6	0	6	37	16%
2000	INFI	QX4	72	20	92	259	36%
2000	ISU	AMIGO	4	0	4	18	22%
2000	ISU	RODEO	69	19	88	285	31%
2000	ISU	TROOPER	40	0	40	118	34%
2000	ISU	VEHICROSS	1	0	1	1	100%
2000	ISUZU	NRR	1	0	1	2	50%
2000	ISUZU	RODEO	1	0	1	7	14%
2000	JAGU	S-TYPE	55	13	68	213	32%
2000	JAGU	VDP	3	0	3	24	13%
2000	JAGU	XJ8	12	0	12	45	27%
2000	JAGU	XK8	5	0	5	25	20%
2000	JEEP	CHEROKEE	718	237	955	2963	32%
2000	JEEP	WRANGLER	65	46	111	788	14%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
2000	KIA	SEPHIA	82	22	104	334	31%
2000	KIA	SPORTAGE	125	40	165	529	31%
2000	LEXS	ES 300	66	20	86	234	37%
2000	LEXS	GS 300	24	10	34	95	36%
2000	LEXS	GS 400	7	0	7	29	24%
2000	LEXS	LS 400	19	0	19	48	40%
2000	LEXS	LX 470	43	0	43	120	36%
2000	LEXS	RX 300	174	48	222	515	43%
2000	LEXS	SC 300	1	0	1	3	33%
2000	LEXS	SC 400	1	0	1	4	25%
2000	LINC	CONTINENTAL	46	16	62	266	23%
2000	LINC	LS	139	50	189	652	29%
2000	LINC	NAVIGATOR	96	0	96	317	30%
2000	LINC	TOWN CAR	116	67	183	752	24%
2000	LNDR	DISCOVERY	24	0	24	90	27%
2000	LNDR	RANGE ROVER	8	0	8	21	38%
2000	MAZD	626	226	60	286	874	33%
2000	MAZD	B2500	19	0	19	79	24%
2000	MAZD	B3000	27	0	27	107	25%
2000	MAZD	B4000	1	0	1	13	8%
2000	MAZD	MILLENIA	24	0	24	108	22%
2000	MAZD	MPV WAGON	115	49	164	430	38%
2000	MAZD	MX5 MIATA	17	7	24	95	25%
2000	MAZD	PROTEGE	159	16	175	770	23%
2000	MERC	COUGAR	106	48	154	590	26%
2000	MERC	GRAND MARQUIS	256	133	389	1307	30%
2000	MERC	MOUNTAINEER	92	29	121	446	27%
2000	MERC	MYSTIQUE	32	19	51	229	22%
2000	MERC	SABLE	171	66	237	931	25%
2000	MERC	VILLAGER	75	26	101	348	29%
2000	MERZ	230	33	6	39	141	28%
2000	MERZ	280	5	0	5	29	17%
2000	MERZ	320	60	0	60	178	34%
2000	MERZ	500	35	16	51	141	36%
2000	MERZ	CLK320	18	0	18	46	39%
2000	MERZ	CLK430	5	0	5	41	12%
2000	MERZ	E430	12	0	12	39	31%
2000	MERZ	ML320	45	0	45	195	23%
2000	MERZ	ML430	13	0	13	51	25%
2000	MERZ	S43	32	6	38	112	34%
2000	MITS	DIAMANTE	21	7	28	72	39%
2000	MITS	ECLIPSE	93	35	128	490	26%
2000	MITS	GALANT	183	56	239	634	38%
2000	MITS	MIRAGE	103	23	126	434	29%
2000	MITS	MONTERO	110	27	137	446	31%
2000	NISS	ALTIMA	283	72	355	1048	34%
2000	NISS	FRONTIER	55	23	78	248	31%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
2000	NISS	MAXIMA	474	128	602	1471	41%
2000	NISS	PATHFINDER	83	26	109	301	36%
2000	NISS	QUEST	65	26	91	269	34%
2000	NISS	SENTRA	79	26	105	320	33%
2000	NISS	XTERRA	98	67	165	455	36%
2000	OLDS	ALERO	332	98	430	1316	33%
2000	OLDS	BRAVADA	54	27	81	222	36%
2000	OLDS	INTRIGUE	214	66	280	751	37%
2000	OLDS	SILHOUETTE	97	37	134	431	31%
2000	OTHER	OTHER	38	0	38	232	16%
2000	PLYM	BREEZE	33	8	41	127	32%
2000	PLYM	GRAND VOYAGER	6	0	6	18	33%
2000	PLYM	NEON	121	51	172	806	21%
2000	PLYM	VOYAGER	134	12	146	434	34%
2000	PONT	BONNEVILLE	132	34	166	520	32%
2000	PONT	FIREBIRD	68	25	93	320	29%
2000	PONT	GRAND AM	460	133	593	1875	32%
2000	PONT	GRAND PRIX	464	136	600	1703	35%
2000	PONT	MONTANA	148	50	198	470	42%
2000	PONT	SUNFIRE	172	64	236	871	27%
2000	PORS	911	7	0	7	46	15%
2000	PORS	BOXSTER	9	5	14	82	17%
2000	SAA	9/5	11	6	17	50	34%
2000	SAA	9/E	8	0	8	33	24%
2000	SAA	9-3	31	0	31	91	34%
2000	SAA	93V	1	0	1	2	50%
2000	SAA	95	1	0	1	3	33%
2000	SAA	9-5	1	0	1	5	20%
2000	STRN	LS	22	0	22	96	23%
2000	STRN	LS1	117	45	162	469	35%
2000	STRN	LS2	113	42	155	405	38%
2000	STRN	LW1	8	4	12	41	29%
2000	STRN	LW2	15	10	25	81	31%
2000	STRN	SC	42	3	45	172	26%
2000	STRN	SL	272	79	351	1238	28%
2000	STRN	SW	10	1	11	50	22%
2000	SUBA	FORESTER	32	14	46	152	30%
2000	SUBA	IMPREZA	13	6	19	58	33%
2000	SUBA	LEGACY	72	40	112	352	32%
2000	SUZI	ESTEEM	9	2	11	54	20%
2000	SUZI	GRAND VITARA	61	38	99	360	28%
2000	SUZI	SWIFT	1	0	1	8	13%
2000	SUZI	VITARA	9	0	9	40	23%
2000	TOYT	4RUNNER	125	46	171	485	35%
2000	TOYT	AVALON	158	78	236	669	35%
2000	TOYT	CAMRY	749	264	1013	2952	34%
2000	TOYT	CELICA	96	36	132	461	29%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
2000	TOYT	COROLLA	230	81	311	1092	28%
2000	TOYT	ECHO	23	19	42	194	22%
2000	TOYT	LAND CRUISER	39	0	39	110	35%
2000	TOYT	MR2	5	0	5	42	12%
2000	TOYT	RAV4	61	22	83	310	27%
2000	TOYT	SIENNA	337	0	337	1027	33%
2000	TOYT	TACOMA	45	5	50	260	19%
2000	TOYT	TUNDRA	75	21	96	310	31%
2000	VOLK	BEETLE	71	46	117	469	25%
2000	VOLK	CABRIO	13	6	19	81	23%
2000	VOLK	EUROVAN	1	0	1	5	20%
2000	VOLK	GOLF	24	0	24	97	25%
2000	VOLK	GTI	8	0	8	36	22%
2000	VOLK	JETTA	163	53	216	766	28%
2000	VOLK	PASSAT	98	5	103	390	26%
2000	VOLV	70	40	4	44	136	32%
2000	VOLV	C70	11	0	11	32	34%
2000	VOLV	S40	45	12	57	180	32%
2000	VOLV	S70	25	0	25	100	25%
2000	VOLV	S80	95	26	121	308	39%
2000	VOLV	V40	5	1	6	27	22%
2000	VOLV	V70	30	12	42	107	39%
1999	ACUR	3.0 CL	3	1	4	37	11%
1999	ACUR	3.2 TL	5	2	7	90	8%
1999	ACUR	3.5 RL	1	0	1	32	3%
1999	ACUR	INTEGRA	2	0	2	55	4%
1999	AUDI	A4	0	1	1	52	2%
1999	AUDI	A6	0	1	1	11	9%
1999	AUDI	QUATTRO	1	0	1	35	3%
1999	BMW	323I	3	1	4	110	4%
1999	BMW	323IC	0	1	1	27	4%
1999	BMW	323IS	1	0	1	16	6%
1999	BMW	328I	0	2	2	90	2%
1999	BMW	528I	3	1	4	100	4%
1999	BMW	740I	2	0	2	40	5%
1999	BMW	M3	0	1	1	28	4%
1999	BMW	Z3	1	1	2	37	5%
1999	BUIC	CENTURY	11	6	17	224	8%
1999	BUIC	LESABRE	8	8	16	141	11%
1999	BUIC	PARK AVENUE	4	3	7	79	9%
1999	BUIC	REGAL	13	2	15	143	10%
1999	CADI	CATERA	2	1	3	82	4%
1999	CADI	CMRCL CHASSIS	1	0	1	3	33%
1999	CADI	DEVILLE	8	6	14	198	7%
1999	CADI	ELDORADO	3	1	4	58	7%
1999	CADI	ESC	0	1	1	66	2%
1999	CADI	SEVILLE	2	2	4	110	4%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1999	CHEV	ASTRO VAN	4	5	9	128	7%
1999	CHEV	BLAZER	16	6	22	592	4%
1999	CHEV	C2500	1	0	1	3	33%
1999	CHEV	CAMARO	1	3	4	106	4%
1999	CHEV	CAVALIER	13	9	22	631	3%
1999	CHEV	CORVETTE	0	1	1	72	1%
1999	CHEV	EXPRESS	5	0	5	35	14%
1999	CHEV	GEO TRACKER	1	0	1	54	2%
1999	CHEV	K1500	10	7	17	388	4%
1999	CHEV	LUMINA	19	7	26	283	9%
1999	CHEV	MALIBU	17	10	27	499	5%
1999	CHEV	METRO	1	0	1	34	3%
1999	CHEV	MONTE CARLO	8	3	11	173	6%
1999	CHEV	PRIZM	1	2	3	117	3%
1999	CHEV	S10	4	4	8	523	2%
1999	CHEV	SILVERADO	23	11	34	590	6%
1999	CHEV	SUBURBAN	13	4	17	350	5%
1999	CHEV	VENTURE	6	3	9	203	4%
1999	CHRY	300M	8	1	9	184	5%
1999	CHRY	CIRRUS	2	3	5	82	6%
1999	CHRY	CONCORDE	10	5	15	163	9%
1999	CHRY	LHS	1	0	1	76	1%
1999	CHRY	SEBRING	1	3	4	190	2%
1999	CHRY	TOWN & COUNTRY	6	4	10	127	8%
1999	DAEW	NUBIRA	1	0	1	6	17%
1999	DODG	AVENGER	1	0	1	74	1%
1999	DODG	CARAVAN	30	14	44	572	8%
1999	DODG	DAKOTA	9	3	12	293	4%
1999	DODG	DURANGO	12	10	22	398	6%
1999	DODG	INTREPID	13	8	21	299	7%
1999	DODG	NEON	9	5	14	214	7%
1999	DODG	RAM 1500	8	5	13	453	3%
1999	DODG	RAM 2500	1	0	1	2	50%
1999	DODG	RAM VAN	5	0	5	45	11%
1999	DODG	STRATUS	8	4	12	257	5%
1999	FORD	CONTOUR	4	10	14	320	4%
1999	FORD	CROWN VICTORIA	1	0	1	152	1%
1999	FORD	ECONOLINE	13	0	13	142	9%
1999	FORD	ESCORT	18	10	28	740	4%
1999	FORD	EXPEDITION	10	7	17	391	4%
1999	FORD	EXPLORER	41	29	70	1010	7%
1999	FORD	F150	20	16	36	715	5%
1999	FORD	MUSTANG	4	6	10	280	4%
1999	FORD	RANGER	14	15	29	819	4%
1999	FORD	TAURUS	30	22	52	939	6%
1999	FORD	WINDSTAR	19	10	29	478	6%
1999	GMC	DENALI	3	0	3	59	5%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1999	GMC	JIMMY	1	3	4	221	2%
1999	GMC	K1500	5	1	6	154	4%
1999	GMC	SAFARI	5	2	7	68	10%
1999	GMC	SAVANA	9	0	9	101	9%
1999	GMC	SIERRA	7	2	9	225	4%
1999	GMC	SONOMA	1	2	3	174	2%
1999	GMC	YUKON	1	4	5	163	3%
1999	HOND	ACCORD	26	10	36	599	6%
1999	HOND	CIVIC	10	12	22	391	6%
1999	HOND	CR-V	5	6	11	186	6%
1999	HOND	ODYSSEY	4	2	6	47	13%
1999	HOND	PASSPORT	1	0	1	32	3%
1999	HYUN	ACCENT	1	0	1	26	4%
1999	HYUN	ELANTRA	2	1	3	63	5%
1999	HYUN	SONATA	1	0	1	56	2%
1999	INFI	G20	1	3	4	109	4%
1999	INFI	I30	3	2	5	148	3%
1999	INFI	Q45	0	2	2	26	8%
1999	INFI	QX4	4	0	4	174	2%
1999	ISU	RODEO	2	1	3	81	4%
1999	ISU	TROOPER	3	1	4	23	17%
1999	JAGU	VDP	1	0	1	13	8%
1999	JAGU	XJ8	1	0	1	27	4%
1999	JEEP	CHEROKEE	40	10	50	1231	4%
1999	JEEP	WRANGLER	1	4	5	175	3%
1999	KIA	SEPHIA	2	0	2	56	4%
1999	KIA	SPORTAGE	0	2	2	45	4%
1999	LEXS	ES 300	7	2	9	83	11%
1999	LEXS	GS 300	1	1	2	34	6%
1999	LEXS	LS 400	1	0	1	27	4%
1999	LEXS	RX 300	7	2	9	170	5%
1999	LINC	CONTINENTAL	1	5	6	61	10%
1999	LINC	NAVIGATOR	3	2	5	110	5%
1999	LINC	TOWN CAR	5	6	11	167	7%
1999	MAZD	626	6	1	7	199	4%
1999	MAZD	B3000	1	0	1	21	5%
1999	MAZD	B4000	0	1	1	6	17%
1999	MAZD	MILLENIA	2	0	2	47	4%
1999	MAZD	MX5 MIATA	1	1	2	63	3%
1999	MAZD	PROTEGE	7	0	7	139	5%
1999	MERC	COUGAR	4	9	13	266	5%
1999	MERC	GRAND MARQUIS	9	10	19	205	9%
1999	MERC	MOUNTAINEER	4	0	4	109	4%
1999	MERC	MYSTIQUE	5	5	10	91	11%
1999	MERC	SABLE	10	5	15	203	7%
1999	MERC	TRACER	2	0	2	60	3%
1999	MERC	VILLAGER	7	4	11	179	6%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1999	MERZ	230	1	2	3	71	4%
1999	MERZ	280	1	0	1	23	4%
1999	MERZ	320	2	3	5	72	7%
1999	MERZ	CLK320	1	0	1	37	3%
1999	MERZ	ML320	2	0	2	59	3%
1999	MERZ	ML430	1	0	1	33	3%
1999	MITS	DIAMANTE	1	1	2	26	8%
1999	MITS	ECLIPSE	2	1	3	138	2%
1999	MITS	GALANT	1	0	1	173	1%
1999	MITS	MIRAGE	1	1	2	47	4%
1999	MITS	MONTERO	1	1	2	91	2%
1999	NISS	ALTIMA	4	4	8	363	2%
1999	NISS	MAXIMA	6	6	12	199	6%
1999	NISS	PATHFINDER	2	1	3	117	3%
1999	NISS	QUEST	4	3	7	48	15%
1999	NISS	SENTRA	3	1	4	59	7%
1999	OLDS	88	6	6	12	57	21%
1999	OLDS	ALERO	11	3	14	404	3%
1999	OLDS	AURORA	3	4	7	62	11%
1999	OLDS	BRAVADA	4	0	4	90	4%
1999	OLDS	CUTLASS	5	2	7	99	7%
1999	OLDS	INTRIGUE	12	13	25	236	11%
1999	OLDS	LSS	2	0	2	4	50%
1999	OLDS	SILHOUETTE	5	1	6	109	6%
1999	PLYM	BREEZE	1	1	2	146	1%
1999	PLYM	GRAND VOYAGER	2	7	9	94	10%
1999	PLYM	VOYAGER	6	3	9	97	9%
1999	PONT	BONNEVILLE	7	4	11	128	9%
1999	PONT	FIREBIRD	4	1	5	127	4%
1999	PONT	GRAND AM	18	15	33	819	4%
1999	PONT	GRAND PRIX	11	4	15	386	4%
1999	PONT	MONTANA	5	5	10	119	8%
1999	PONT	SUNFIRE	2	2	4	236	2%
1999	PORS	BOXSTER	0	1	1	26	4%
1999	SAA	9/5	0	1	1	15	7%
1999	SAA	9/E	1	0	1	24	4%
1999	SAA	9-3	1	0	1	71	1%
1999	STRN	SC	3	3	6	194	3%
1999	STRN	SL	15	6	21	468	4%
1999	STRN	SW	2	1	3	28	11%
1999	SUBA	FORESTER	2	1	3	44	7%
1999	SUBA	LEGACY	1	2	3	58	5%
1999	SUZI	VITARA	2	1	3	45	7%
1999	TOYT	4RUNNER	6	2	8	153	5%
1999	TOYT	AVALON	2	0	2	59	3%
1999	TOYT	CAMRY	31	18	49	861	6%
1999	TOYT	COROLLA	6	4	10	321	3%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1999	TOYT	LAND CRUISER	2	0	2	23	9%
1999	TOYT	RAV4	2	0	2	108	2%
1999	TOYT	SIENNA	6	0	6	87	7%
1999	TOYT	TACOMA	3	0	3	81	4%
1999	VOLK	BEETLE	0	1	1	89	1%
1999	VOLK	GOLF	1	0	1	15	7%
1999	VOLK	JETTA	1	0	1	180	1%
1999	VOLK	PASSAT	8	4	12	124	10%
1999	VOLV	70	2	1	3	52	6%
1999	VOLV	C70	1	0	1	22	5%
1999	VOLV	S70	2	0	2	42	5%
1999	VOLV	S80	1	1	2	74	3%
1999	VOLV	V70	0	2	2	25	8%
1998	ACUR	2.5TL	6	0	6	26	23%
1998	ACUR	25T	10	2	12	35	34%
1998	ACUR	3.0 CL	38	12	50	153	33%
1998	ACUR	3.2 TL	11	8	19	77	25%
1998	ACUR	3.5 RL	19	8	27	84	32%
1998	ACUR	3.5RL	5	5	10	44	23%
1998	ACUR	INTEGRA	36	12	48	212	23%
1998	ACUR	LEGEND	0	1	1	4	25%
1998	ACUR	NSX	1	0	1	4	25%
1998	ACUR	SLX	2	1	3	19	16%
1998	ACUR	VIGOR	1	0	1	5	20%
1998	AUDI	A4	36	26	62	182	34%
1998	AUDI	A6	1	0	1	21	5%
1998	AUDI	A8	3	2	5	10	50%
1998	AUDI	CABRIOLET	1	0	1	12	8%
1998	AUDI	QUATTRO	16	15	31	80	39%
1998	BMW	318I	24	4	28	81	35%
1998	BMW	323IC	11	8	19	68	28%
1998	BMW	323IS	9	3	12	36	33%
1998	BMW	328I	31	20	51	158	32%
1998	BMW	528I	63	41	104	240	43%
1998	BMW	540I	6	2	8	40	20%
1998	BMW	740I	68	22	90	200	45%
1998	BMW	750IL	4	0	4	13	31%
1998	BMW	M3	16	6	22	70	31%
1998	BMW	MRD	1	2	3	18	17%
1998	BMW	Z3	11	12	23	138	17%
1998	BUIC	CENTURY	235	133	368	1018	36%
1998	BUIC	LESABRE	122	98	220	823	27%
1998	BUIC	PARK AVENUE	65	62	127	323	39%
1998	BUIC	REGAL	97	72	169	434	39%
1998	BUIC	RIVIERA	15	8	23	56	41%
1998	BUIC	SKYLARK	32	26	58	182	32%
1998	CADI	CATERA	46	24	70	203	34%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1998	CADI	CMRCL CHASSIS	2	0	2	12	17%
1998	CADI	DEVILLE	134	100	234	798	29%
1998	CADI	ELDORADO	24	19	43	107	40%
1998	CADI	SEVILLE	56	36	92	217	42%
1998	CHEV	ASTRO VAN	161	62	223	588	38%
1998	CHEV	BLAZER	422	257	679	1904	36%
1998	CHEV	C1500	196	23	219	767	29%
1998	CHEV	C2500	13	0	13	25	52%
1998	CHEV	C3500	2	0	2	3	67%
1998	CHEV	CAMARO	73	45	118	383	31%
1998	CHEV	CAVALIER	503	377	880	2909	30%
1998	CHEV	CORVETTE	20	25	45	208	22%
1998	CHEV	EXPRESS	21	0	21	25	84%
1998	CHEV	G10	11	0	11	73	15%
1998	CHEV	G20	11	0	11	42	26%
1998	CHEV	G30	5	0	5	7	71%
1998	CHEV	GEO TRACKER	14	14	28	117	24%
1998	CHEV	K1500	382	216	598	1766	34%
1998	CHEV	K2500	24	0	24	33	73%
1998	CHEV	LUMINA	396	233	629	1730	36%
1998	CHEV	MALIBU	487	245	732	2016	36%
1998	CHEV	METRO	8	16	24	172	14%
1998	CHEV	MONTE CARLO	135	74	209	587	36%
1998	CHEV	PRIZM	63	12	75	325	23%
1998	CHEV	S10	321	218	539	1793	30%
1998	CHEV	SUBURBAN	56	23	79	224	35%
1998	CHEV	VENTURE	204	117	321	781	41%
1998	CHRY	CIRRUS	58	37	95	275	35%
1998	CHRY	CONCORDE	96	30	126	421	30%
1998	CHRY	INTREPID	1	0	1	13	8%
1998	CHRY	SEBRING	238	160	398	1127	35%
1998	CHRY	TOWN & COUNTRY	152	73	225	528	43%
1998	DODG	AVENGER	70	53	123	418	29%
1998	DODG	B350	5	0	5	5	100%
1998	DODG	CARAVAN	694	368	1062	2520	42%
1998	DODG	DAKOTA	177	82	259	1013	26%
1998	DODG	DURANGO	235	115	350	998	35%
1998	DODG	INTREPID	131	106	237	696	34%
1998	DODG	NEON	214	139	353	1346	26%
1998	DODG	RAM 1500	362	164	526	1779	30%
1998	DODG	RAM 2500	13	0	13	22	59%
1998	DODG	RAM VAN	31	11	42	148	28%
1998	DODG	RAM WAGON	6	0	6	26	23%
1998	DODG	STRATUS	214	121	335	960	35%
1998	DODG	VIPER	1	0	1	9	11%
1998	EGIL	TALON	19	10	29	87	33%
1998	FORD	CLUB WAGON	4	0	4	21	19%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1998	FORD	CONTOUR	253	247	500	1809	28%
1998	FORD	CROWN VICTORIA	46	18	64	395	16%
1998	FORD	ECONOLINE	214	22	236	633	37%
1998	FORD	ESCORT	638	449	1087	3522	31%
1998	FORD	EXPEDITION	321	145	466	1274	37%
1998	FORD	EXPLORER	839	392	1231	3495	35%
1998	FORD	F150	678	358	1036	2825	37%
1998	FORD	F250	15	1	16	97	16%
1998	FORD	MUSTANG	232	187	419	1355	31%
1998	FORD	RANGER	340	188	528	2177	24%
1998	FORD	TAURUS	526	370	896	2697	33%
1998	FORD	WINDSTAR	671	422	1093	2793	39%
1998	GEO	TRACKER	1	1	2	2	100%
1998	GMC	C1500	5	0	5	13	38%
1998	GMC	JIMMY	177	88	265	654	41%
1998	GMC	K1500	32	10	42	140	30%
1998	GMC	K2500	1	0	1	1	100%
1998	GMC	PB1500	1	0	1	1	100%
1998	GMC	SAFARI	131	63	194	453	43%
1998	GMC	SAVANA	78	0	78	343	23%
1998	GMC	SIERRA	134	23	157	578	27%
1998	GMC	SONOMA	131	89	220	693	32%
1998	GMC	YUKON	35	23	58	162	36%
1998	HOND	ACCORD	638	390	1028	2691	38%
1998	HOND	CIVIC	374	310	684	2221	31%
1998	HOND	CR-V	129	100	229	630	36%
1998	HOND	ODYSSEY	30	16	46	102	45%
1998	HOND	PASSPORT	24	23	47	110	43%
1998	HOND	PRELUDE	21	16	37	117	32%
1998	HYUN	ACCENT	29	14	43	152	28%
1998	HYUN	ELANTRA	48	30	78	222	35%
1998	HYUN	SONATA	23	9	32	87	37%
1998	HYUN	TIBURON	11	3	14	68	21%
1998	INFI	I30	72	40	112	263	43%
1998	INFI	Q45	9	9	18	70	26%
1998	INFI	QX4	52	41	93	231	40%
1998	ISU	AMIGO	16	7	23	81	28%
1998	ISU	HOMBRE	2	0	2	13	15%
1998	ISU	OASIS	5	0	5	16	31%
1998	ISU	RODEO	102	42	144	384	38%
1998	ISU	TROOPER	30	9	39	101	39%
1998	JAGU	VDP	10	4	14	43	33%
1998	JAGU	XJ8	21	15	36	99	36%
1998	JAGU	XK8	4	2	6	35	17%
1998	JEEP	CHEROKEE	394	260	654	1851	35%
1998	JEEP	GRAND CHEROKEE	290	179	469	1295	36%
1998	JEEP	WRANGLER	40	82	122	700	17%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1998	KIA	SEPHIA	37	20	57	146	39%
1998	KIA	SPORTAGE	16	16	32	115	28%
1998	LEXS	ES 300	81	8	89	317	28%
1998	LEXS	GS 300	21	15	36	113	32%
1998	LEXS	GS 400	17	11	28	69	41%
1998	LEXS	LS 400	35	10	45	139	32%
1998	LEXS	LX 470	11	6	17	53	32%
1998	LEXS	SC 300	1	0	1	10	10%
1998	LEXS	SC 400	1	0	1	3	33%
1998	LINC	CONTINENTAL	50	17	67	320	21%
1998	LINC	MARK VIII	20	1	21	81	26%
1998	LINC	NAVIGATOR	109	55	164	438	37%
1998	LINC	TOWN CAR	136	88	224	667	34%
1998	LNDR	DISCOVERY	17	5	22	61	36%
1998	LNDR	RANGE ROVER	8	0	8	32	25%
1998	MAZD	626	203	63	266	1036	26%
1998	MAZD	B2500	26	32	58	160	36%
1998	MAZD	B3000	12	0	12	50	24%
1998	MAZD	B4000	7	2	9	42	21%
1998	MAZD	MILLENIA	33	22	55	135	41%
1998	MAZD	MPV WAGON	21	5	26	70	37%
1998	MAZD	PROTEGE	121	68	189	581	33%
1998	MERC	GRAND MARQUIS	137	124	261	766	34%
1998	MERC	MOUNTAINEER	105	10	115	407	28%
1998	MERC	MYSTIQUE	74	62	136	547	25%
1998	MERC	SABLE	156	101	257	766	34%
1998	MERC	TRACER	59	33	92	295	31%
1998	MERC	VILLAGER	78	73	151	423	36%
1998	MERZ	230	39	32	71	223	32%
1998	MERZ	280	14	2	16	59	27%
1998	MERZ	320	40	26	66	188	35%
1998	MERZ	420	3	0	3	12	25%
1998	MERZ	500	9	7	16	57	28%
1998	MERZ	600	3	0	3	10	30%
1998	MERZ	CLK320	6	1	7	19	37%
1998	MERZ	E430	5	3	8	31	26%
1998	MERZ	ML320	51	36	87	226	38%
1998	MERZ	SLK230	1	0	1	5	20%
1998	MITS	3000	7	1	8	50	16%
1998	MITS	DIAMANTE	28	6	34	83	41%
1998	MITS	ECLIPSE	75	59	134	569	24%
1998	MITS	GALANT	43	20	63	207	30%
1998	MITS	MIRAGE	16	10	26	93	28%
1998	MITS	MONTERO	39	16	55	240	23%
1998	NISS	200SX	8	7	15	62	24%
1998	NISS	240SX	2	1	3	11	27%
1998	NISS	ALTIMA	231	132	363	988	37%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1998	NISS	FRONTIER	24	4	28	142	20%
1998	NISS	MAXIMA	183	84	267	682	39%
1998	NISS	PATHFINDER	104	49	153	400	38%
1998	NISS	QUEST	22	11	33	86	38%
1998	NISS	SENTRA	78	58	136	377	36%
1998	OLDS	88	81	80	161	446	36%
1998	OLDS	ACHIEVA	59	35	94	241	39%
1998	OLDS	AURORA	56	33	89	252	35%
1998	OLDS	BRAVADA	71	44	115	311	37%
1998	OLDS	CUTLASS	104	58	162	525	31%
1998	OLDS	DELTA 88	0	1	1	23	4%
1998	OLDS	INTRIGUE	283	142	425	987	43%
1998	OLDS	LSS	7	8	15	43	35%
1998	OLDS	REGENCY	11	4	15	73	21%
1998	OLDS	SILHOUETTE	113	65	178	387	46%
1998	OTHER	OTHER	1	0	1	19	5%
1998	PLYM	BREEZE	105	68	173	500	35%
1998	PLYM	GRAND VOYAGER	140	67	207	455	45%
1998	PLYM	NEON	161	86	247	822	30%
1998	PLYM	VOYAGER	191	63	254	707	36%
1998	PONT	BONNEVILLE	133	81	214	567	38%
1998	PONT	FIREBIRD	47	31	78	274	28%
1998	PONT	GRAND AM	174	102	276	827	33%
1998	PONT	GRAND PRIX	340	154	494	1249	40%
1998	PONT	SUNFIRE	203	130	333	1017	33%
1998	PONT	TRANS SPORT	131	67	198	490	40%
1998	PORS	911	2	1	3	14	21%
1998	PORS	BOXSTER	7	1	8	39	21%
1998	SAA	900	16	4	20	53	38%
1998	SAA	9-3	1	0	1	1	100%
1998	STRN	SC	102	60	162	510	32%
1998	STRN	SL	292	218	510	1549	33%
1998	STRN	SW	31	25	56	153	37%
1998	SUBA	FORESTER	33	28	61	187	33%
1998	SUBA	IMPREZA	12	7	19	67	28%
1998	SUBA	LEGACY	43	40	83	275	30%
1998	SUZI	ESTEEM	3	3	6	39	15%
1998	SUZI	SIDEKICK	13	7	20	112	18%
1998	TOYT	4RUNNER	109	19	128	480	27%
1998	TOYT	AVALON	134	85	219	518	42%
1998	TOYT	CAMRY	677	387	1064	2762	39%
1998	TOYT	CELICA	2	1	3	27	11%
1998	TOYT	COROLLA	259	84	343	1301	26%
1998	TOYT	LAND CRUISER	17	1	18	39	46%
1998	TOYT	RAV4	57	43	100	343	29%
1998	TOYT	SIENNA	139	25	164	503	33%
1998	TOYT	T100	2	0	2	21	10%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1998	TOYT	TACOMA	46	37	83	299	28%
1998	VOLK	BEETLE	26	29	55	161	34%
1998	VOLK	CABRIO	14	10	24	97	25%
1998	VOLK	GOLF	10	9	19	63	30%
1998	VOLK	GTI	4	4	8	29	28%
1998	VOLK	JETTA	55	32	87	331	26%
1998	VOLK	PASSAT	36	24	60	187	32%
1998	VOLV	70	130	60	190	435	44%
1998	VOLV	850	4	1	5	5	100%
1998	VOLV	90	24	6	30	74	41%
1998	VOLV	C70	4	1	5	12	42%
1998	VOLV	S70	51	34	85	201	42%
1998	VOLV	V70	45	17	62	153	41%
1998	VOLV	V70R	0	1	1	3	33%
1997	ACUR	3.0 CL	1	0	1	38	3%
1997	ACUR	3.2 TL	1	0	1	10	10%
1997	ACUR	3.5 RL	2	1	3	23	13%
1997	ACUR	INTEGRA	0	1	1	43	2%
1997	AUDI	A4	1	0	1	13	8%
1997	AUDI	A6	0	1	1	7	14%
1997	BMW	318I	1	0	1	33	3%
1997	BMW	328I	2	0	2	48	4%
1997	BMW	528I	2	2	4	62	6%
1997	BMW	540I	1	0	1	25	4%
1997	BMW	740I	2	1	3	47	6%
1997	BMW	Z3	2	0	2	34	6%
1997	BUIC	CENTURY	2	4	6	76	8%
1997	BUIC	LESABRE	11	8	19	246	8%
1997	BUIC	PARK AVENUE	3	5	8	81	10%
1997	BUIC	REGAL	3	2	5	42	12%
1997	BUIC	RIVIERA	0	1	1	16	6%
1997	BUIC	SKYLARK	5	2	7	106	7%
1997	CADI	CATERA	3	1	4	63	6%
1997	CADI	DEVILLE	4	10	14	172	8%
1997	CADI	ELDORADO	1	5	6	30	20%
1997	CADI	SEVILLE	6	2	8	77	10%
1997	CHEV	ASTRO VAN	6	7	13	137	9%
1997	CHEV	BLAZER	11	8	19	370	5%
1997	CHEV	C1500	9	1	10	191	5%
1997	CHEV	C2500	1	0	1	8	13%
1997	CHEV	C3500	1	0	1	1	100%
1997	CHEV	CAMARO	2	1	3	116	3%
1997	CHEV	CAVALIER	28	3	31	680	5%
1997	CHEV	CORVETTE	0	1	1	16	6%
1997	CHEV	G10	1	1	2	14	14%
1997	CHEV	K1500	11	8	19	442	4%
1997	CHEV	LUMINA	21	15	36	442	8%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1997	CHEV	MALIBU	9	4	13	190	7%
1997	CHEV	MONTE CARLO	3	3	6	130	5%
1997	CHEV	S10	5	6	11	272	4%
1997	CHEV	SUBURBAN	1	0	1	110	1%
1997	CHEV	VENTURE	4	6	10	94	11%
1997	CHRY	CIRRUS	4	1	5	60	8%
1997	CHRY	CONCORDE	3	3	6	105	6%
1997	CHRY	LHS	1	5	6	68	9%
1997	CHRY	SEBRING	6	8	14	229	6%
1997	CHRY	TOWN & COUNTRY	13	9	22	121	18%
1997	DODG	AVENGER	1	1	2	100	2%
1997	DODG	CARAVAN	14	21	35	432	8%
1997	DODG	DAKOTA	4	0	4	234	2%
1997	DODG	INTREPID	18	8	26	326	8%
1997	DODG	NEON	5	7	12	247	5%
1997	DODG	RAM 1500	13	4	17	497	3%
1997	DODG	RAM 2500	1	0	1	1	100%
1997	DODG	RAM VAN	5	0	5	52	10%
1997	DODG	STRATUS	4	5	9	196	5%
1997	EGIL	VISION	1	1	2	20	10%
1997	FORD	CONTOUR	6	0	6	123	5%
1997	FORD	CROWN VICTORIA	4	0	4	140	3%
1997	FORD	ECONOLINE	3	3	6	77	8%
1997	FORD	ESCORT	15	4	19	553	3%
1997	FORD	EXPEDITION	9	12	21	284	7%
1997	FORD	EXPLORER	27	0	27	623	4%
1997	FORD	F150	36	25	61	852	7%
1997	FORD	F250	2	0	2	41	5%
1997	FORD	MUSTANG	1	2	3	180	2%
1997	FORD	PROBE	1	2	3	60	5%
1997	FORD	RANGER	13	7	20	405	5%
1997	FORD	TAURUS	19	18	37	750	5%
1997	FORD	THUNDERBIRD	2	2	4	85	5%
1997	FORD	WINDSTAR	2	2	4	54	7%
1997	GEO	METRO	1	1	2	81	2%
1997	GEO	PRIZM	3	2	5	80	6%
1997	GEO	TRACKER	0	1	1	27	4%
1997	GMC	C1500	1	0	1	10	10%
1997	GMC	JIMMY	8	7	15	157	10%
1997	GMC	K1500	2	2	4	60	7%
1997	GMC	SAFARI	4	1	5	103	5%
1997	GMC	SAVANA	2	1	3	42	7%
1997	GMC	SIERRA	5	1	6	164	4%
1997	GMC	SONOMA	1	2	3	80	4%
1997	GMC	YUKON	6	2	8	80	10%
1997	HOND	ACCORD	22	15	37	376	10%
1997	HOND	CIVIC	16	10	26	292	9%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1997	HOND	CR-V	7	3	10	77	13%
1997	HOND	ODYSSEY	9	1	10	28	36%
1997	HOND	PASSPORT	1	0	1	26	4%
1997	HOND	PRELUDE	2	0	2	32	6%
1997	HYUN	ACCENT	1	0	1	49	2%
1997	HYUN	SONATA	2	1	3	23	13%
1997	HYUN	TIBURON	1	0	1	24	4%
1997	INFI	I30	5	3	8	58	14%
1997	INFI	J30	1	1	2	13	15%
1997	INFI	QX4	1	1	2	43	5%
1997	ISU	RODEO	1	1	2	43	5%
1997	ISU	TROOPER	1	1	2	9	22%
1997	JAGU	VDP	0	1	1	3	33%
1997	JAGU	XJ6	1	1	2	14	14%
1997	JAGU	XK8	0	2	2	15	13%
1997	JEEP	CHEROKEE	9	4	13	299	4%
1997	JEEP	GRAND CHEROKEE	11	11	22	264	8%
1997	JEEP	WRANGLER	0	4	4	240	2%
1997	LEXS	ES 300	7	0	7	74	9%
1997	LEXS	LS 400	1	3	4	20	20%
1997	LEXS	LS 450	4	0	4	18	22%
1997	LINC	CONTINENTAL	3	2	5	56	9%
1997	LINC	MARK VIII	1	1	2	23	9%
1997	LINC	TOWN CAR	5	0	5	156	3%
1997	MAZD	626	7	1	8	137	6%
1997	MAZD	MILLENIA	1	2	3	39	8%
1997	MAZD	MPV WAGON	0	1	1	10	10%
1997	MAZD	MX5 MIATA	1	0	1	19	5%
1997	MAZD	PROTEGE	3	2	5	122	4%
1997	MERC	COUGAR	2	3	5	81	6%
1997	MERC	GRAND MARQUIS	11	23	34	204	17%
1997	MERC	MOUNTAINEER	6	0	6	121	5%
1997	MERC	MYSTIQUE	0	2	2	35	6%
1997	MERC	SABLE	4	14	18	183	10%
1997	MERC	TRACER	4	1	5	89	6%
1997	MERC	VILLAGER	6	5	11	110	10%
1997	MERZ	230	0	3	3	35	9%
1997	MERZ	320	6	0	6	50	12%
1997	MERZ	420	1	0	1	26	4%
1997	MITS	DIAMANTE	0	1	1	24	4%
1997	MITS	ECLIPSE	4	2	6	165	4%
1997	MITS	GALANT	4	0	4	73	5%
1997	MITS	MIRAGE	0	1	1	43	2%
1997	MITS	MONTERO	5	2	7	47	15%
1997	NISS	200SX	2	0	2	18	11%
1997	NISS	ALTIMA	6	8	14	198	7%
1997	NISS	KING CAB	0	1	1	21	5%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1997	NISS	MAXIMA	12	7	19	152	13%
1997	NISS	PATHFINDER	3	4	7	67	10%
1997	NISS	QUEST	3	2	5	29	17%
1997	NISS	SENTRA	4	1	5	91	5%
1997	OLDS	88	12	8	20	99	20%
1997	OLDS	ACHIEVA	3	4	7	96	7%
1997	OLDS	AURORA	6	1	7	68	10%
1997	OLDS	BRAVADA	1	0	1	76	1%
1997	OLDS	CUTLASS	9	5	14	135	10%
1997	OLDS	LSS	1	0	1	21	5%
1997	OLDS	REGENCY	2	0	2	15	13%
1997	OLDS	SILHOUETTE	0	3	3	43	7%
1997	PLYM	BREEZE	1	0	1	159	1%
1997	PLYM	NEON	3	4	7	183	4%
1997	PLYM	VOYAGER	16	10	26	222	12%
1997	PONT	BONNEVILLE	8	4	12	151	8%
1997	PONT	FIREBIRD	3	0	3	90	3%
1997	PONT	GRAND AM	14	14	28	466	6%
1997	PONT	GRAND PRIX	11	7	18	357	5%
1997	PONT	SUNFIRE	8	2	10	250	4%
1997	PONT	TRANS SPORT	4	0	4	63	6%
1997	SAA	900	0	1	1	28	4%
1997	STRN	SC	7	7	14	162	9%
1997	STRN	SL	18	20	38	347	11%
1997	STRN	SW	1	3	4	32	13%
1997	SUBA	LEGACY	2	2	4	42	10%
1997	TOYT	4RUNNER	4	0	4	80	5%
1997	TOYT	AVALON	5	0	5	80	6%
1997	TOYT	CAMRY	31	26	57	414	14%
1997	TOYT	CELICA	0	1	1	24	4%
1997	TOYT	COROLLA	3	4	7	183	4%
1997	TOYT	LAND CRUISER	2	0	2	24	8%
1997	TOYT	RAV4	4	1	5	70	7%
1997	TOYT	T100	1	0	1	12	8%
1997	TOYT	TACOMA	5	3	8	57	14%
1997	TOYT	TERCEL	1	0	1	27	4%
1997	VOLK	CABRIO	1	3	4	16	25%
1997	VOLK	GOLF	1	0	1	14	7%
1997	VOLK	JETTA	3	0	3	92	3%
1997	VOLK	PASSAT	1	0	1	10	10%
1997	VOLV	850	6	0	6	57	11%
1997	VOLV	960	3	1	4	16	25%
1996	ACUR	25T	34	29	63	151	42%
1996	ACUR	3.2 TL	22	24	46	100	46%
1996	ACUR	3.5 RL	31	19	50	131	38%
1996	ACUR	INTEGRA	41	40	81	296	27%
1996	ACUR	SLX	4	1	5	22	23%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1996	AUDI	A4	6	8	14	58	24%
1996	AUDI	A6	6	3	9	21	43%
1996	AUDI	CABRIOLET	2	1	3	8	38%
1996	AUDI	QUATTRO	23	8	31	90	34%
1996	BMW	318I	13	7	20	81	25%
1996	BMW	328I	30	30	60	176	34%
1996	BMW	740I	4	7	11	39	28%
1996	BMW	750IL	1	0	1	10	10%
1996	BMW	850I	1	0	1	2	50%
1996	BMW	Z3	4	4	8	59	14%
1996	BUIC	CENTURY	97	95	192	723	27%
1996	BUIC	LESABRE	45	30	75	248	30%
1996	BUIC	PARK AVENUE	47	40	87	285	31%
1996	BUIC	REGAL	116	87	203	610	33%
1996	BUIC	RIVIERA	23	18	41	99	41%
1996	BUIC	ROADMASTER	26	16	42	156	27%
1996	BUIC	SKYLARK	76	67	143	423	34%
1996	CADI	CMRCL CHASSIS	4	0	4	8	50%
1996	CADI	DEVILLE	128	111	239	752	32%
1996	CADI	ELDORADO	22	8	30	119	25%
1996	CADI	FLEETWOOD	11	12	23	95	24%
1996	CADI	SEVILLE	44	38	82	272	30%
1996	CHEV	ASTRO VAN	85	25	110	383	29%
1996	CHEV	BERETTA	84	46	130	461	28%
1996	CHEV	BLAZER	312	207	519	1504	35%
1996	CHEV	C1500	141	47	188	687	27%
1996	CHEV	C2500	8	0	8	23	35%
1996	CHEV	CAMARO	60	32	92	386	24%
1996	CHEV	CAPRICE	79	63	142	434	33%
1996	CHEV	CAVALIER	349	105	454	2356	19%
1996	CHEV	CORSICA	321	192	513	1810	28%
1996	CHEV	CORVETTE	13	11	24	188	13%
1996	CHEV	EXPRESS	4	0	4	5	80%
1996	CHEV	G10	19	2	21	85	25%
1996	CHEV	G20	4	0	4	9	44%
1996	CHEV	G30	1	0	1	3	33%
1996	CHEV	K1500	228	134	362	1216	30%
1996	CHEV	K2500	10	0	10	14	71%
1996	CHEV	K3500	1	0	1	1	100%
1996	CHEV	LUMINA	456	300	756	2010	38%
1996	CHEV	MONTE CARLO	110	81	191	556	34%
1996	CHEV	S10	158	111	269	1039	26%
1996	CHEV	SUBURBAN	71	31	102	296	34%
1996	CHEV	VENTURE	0	1	1	1	100%
1996	CHRY	CIRRUS	80	64	144	442	33%
1996	CHRY	CONCORDE	82	83	165	469	35%
1996	CHRY	INTREPID	2	0	2	8	25%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1996	CHRY	LHS	75	52	127	326	39%
1996	CHRY	NEW YORKER	6	1	7	22	32%
1996	CHRY	SEBRING	153	144	297	926	32%
1996	CHRY	TOWN & COUNTRY	201	144	345	836	41%
1996	DODG	AVENGER	72	47	119	455	26%
1996	DODG	B150	1	0	1	1	100%
1996	DODG	B250	4	1	5	5	100%
1996	DODG	B350	12	0	12	12	100%
1996	DODG	CARAVAN	551	351	902	2370	38%
1996	DODG	DAKOTA	69	13	82	599	14%
1996	DODG	INTREPID	287	173	460	1380	33%
1996	DODG	NEON	152	111	263	1037	25%
1996	DODG	RAM 1500	243	62	305	1562	20%
1996	DODG	RAM 2500	10	0	10	34	29%
1996	DODG	RAM VAN	50	13	63	275	23%
1996	DODG	RAM WAGON	9	3	12	46	26%
1996	DODG	STRATUS	151	92	243	735	33%
1996	EGIL	SUMMIT	1	0	1	4	25%
1996	EGIL	TALON	27	8	35	126	28%
1996	EGIL	VISION	39	18	57	162	35%
1996	FORD	AEROSTAR	53	41	94	423	22%
1996	FORD	ASPIRE	14	19	33	182	18%
1996	FORD	BRONCO	25	29	54	197	27%
1996	FORD	CLUB WAGON	9	2	11	30	37%
1996	FORD	CONTOUR	138	101	239	1148	21%
1996	FORD	CROWN VICTORIA	92	33	125	689	18%
1996	FORD	ECONOLINE	134	41	175	538	33%
1996	FORD	ESCORT	153	151	304	1157	26%
1996	FORD	EXPLORER	441	330	771	2448	31%
1996	FORD	F150	246	160	406	1572	26%
1996	FORD	F250	12	2	14	32	44%
1996	FORD	MUSTANG	132	86	218	826	26%
1996	FORD	PROBE	52	26	78	395	20%
1996	FORD	RANGER	167	157	324	1777	18%
1996	FORD	TAURUS	394	350	744	2794	27%
1996	FORD	THUNDERBIRD	88	89	177	546	32%
1996	FORD	WINDSTAR	338	252	590	1711	34%
1996	GEO	METRO	37	37	74	478	15%
1996	GEO	PRIZM	81	46	127	436	29%
1996	GEO	TRACKER	19	26	45	304	15%
1996	GMC	C1500	10	0	10	31	32%
1996	GMC	C2500	1	0	1	2	50%
1996	GMC	JIMMY	138	79	217	614	35%
1996	GMC	K1500	35	22	57	149	38%
1996	GMC	K2500	5	0	5	6	83%
1996	GMC	SAFARI	88	26	114	401	28%
1996	GMC	SAVANA	137	59	196	506	39%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1996	GMC	SIERRA	110	23	133	652	20%
1996	GMC	SONOMA	69	45	114	466	24%
1996	GMC	VANDURA	1	0	1	1	100%
1996	GMC	YUKON	35	18	53	188	28%
1996	HOND	ACCORD	512	324	836	2168	39%
1996	HOND	CIVIC	188	153	341	1126	30%
1996	HOND	ODYSSEY	47	18	65	139	47%
1996	HOND	PASSPORT	29	16	45	94	48%
1996	HOND	PRELUDE	8	10	18	78	23%
1996	HYUN	ACCENT	15	9	24	162	15%
1996	HYUN	ELANTRA	15	3	18	115	16%
1996	HYUN	SONATA	9	3	12	28	43%
1996	INFI	G20	33	3	36	122	30%
1996	INFI	I30	89	58	147	322	46%
1996	INFI	J30	8	2	10	36	28%
1996	INFI	Q45	5	2	7	21	33%
1996	ISU	HOMBRE	4	2	6	22	27%
1996	ISU	OASIS	8	3	11	24	46%
1996	ISU	RODEO	56	17	73	200	37%
1996	ISU	TROOPER	22	9	31	78	40%
1996	JAGU	VDP	9	13	22	48	46%
1996	JAGU	XJ12	1	0	1	6	17%
1996	JAGU	XJ6	13	7	20	64	31%
1996	JAGU	XJS	1	5	6	25	24%
1996	JEEP	CHEROKEE	613	269	882	3227	27%
1996	KIA	SEPHIA	0	1	1	11	9%
1996	LEXS	ES 300	82	34	116	296	39%
1996	LEXS	GS 300	4	0	4	11	36%
1996	LEXS	LS 400	29	8	37	119	31%
1996	LEXS	LS 450	10	0	10	41	24%
1996	LEXS	SC 300	2	1	3	20	15%
1996	LEXS	SC 400	3	0	3	10	30%
1996	LINC	CONTINENTAL	31	30	61	184	33%
1996	LINC	MARK VIII	17	7	24	86	28%
1996	LINC	TOWN CAR	120	29	149	628	24%
1996	LNDR	DISCOVERY	15	2	17	98	17%
1996	LNDR	RANGE ROVER	1	2	3	22	14%
1996	MAZD	626	128	48	176	679	26%
1996	MAZD	B2300	12	18	30	126	24%
1996	MAZD	B3000	6	4	10	48	21%
1996	MAZD	B4000	6	3	9	35	26%
1996	MAZD	MILLENIA	10	17	27	87	31%
1996	MAZD	MPV WAGON	22	2	24	68	35%
1996	MAZD	MX5 MIATA	15	21	36	120	30%
1996	MAZD	MX-6	12	3	15	59	25%
1996	MAZD	PROTEGE	76	60	136	514	26%
1996	MERC	COUGAR	52	55	107	349	31%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1996	MERC	GRAND MARQUIS	163	140	303	947	32%
1996	MERC	MYSTIQUE	44	29	73	369	20%
1996	MERC	SABLE	136	129	265	991	27%
1996	MERC	TRACER	14	5	19	68	28%
1996	MERC	VILLAGER	124	45	169	577	29%
1996	MERZ	220	14	5	19	58	33%
1996	MERZ	280	9	3	12	47	26%
1996	MERZ	320	20	5	25	118	21%
1996	MERZ	420	2	2	4	5	80%
1996	MERZ	500	6	1	7	20	35%
1996	MITS	3000	6	4	10	35	29%
1996	MITS	ECLIPSE	48	32	80	325	25%
1996	MITS	GALANT	50	24	74	255	29%
1996	MITS	MIRAGE	2	2	4	48	8%
1996	MITS	MONTERO	16	11	27	66	41%
1996	NISS	200SX	22	9	31	97	32%
1996	NISS	240SX	2	3	5	24	21%
1996	NISS	ALTIMA	122	87	209	592	35%
1996	NISS	KING CAB	8	5	13	80	16%
1996	NISS	MAXIMA	269	152	421	1044	40%
1996	NISS	PATHFINDER	40	29	69	236	29%
1996	NISS	QUEST	14	16	30	105	29%
1996	NISS	SENTRA	120	70	190	538	35%
1996	NISS	SHORT BED	0	1	1	1	100%
1996	NISS	STANDARD	8	9	17	77	22%
1996	OLDS	88	67	54	121	355	34%
1996	OLDS	98	16	6	22	81	27%
1996	OLDS	ACHIEVA	56	34	90	315	29%
1996	OLDS	AURORA	34	33	67	206	33%
1996	OLDS	BRAVADA	18	2	20	91	22%
1996	OLDS	CIERA	150	146	296	1103	27%
1996	OLDS	CUTLASS	117	61	178	534	33%
1996	OLDS	DELTA 88	0	2	2	25	8%
1996	OLDS	LSS	24	7	31	111	28%
1996	OLDS	SILHOUETTE	6	4	10	30	33%
1996	PLYM	BREEZE	79	42	121	394	31%
1996	PLYM	NEON	124	75	199	811	25%
1996	PLYM	VOYAGER	285	149	434	1154	38%
1996	PONT	BONNEVILLE	152	95	247	632	39%
1996	PONT	FIREBIRD	40	39	79	264	30%
1996	PONT	GRAND AM	271	172	443	1440	31%
1996	PONT	GRAND PRIX	128	89	217	742	29%
1996	PONT	SUNFIRE	149	48	197	821	24%
1996	PONT	TRANS SPORT	12	10	22	74	30%
1996	PORS	911	3	0	3	30	10%
1996	SAA	900	12	15	27	92	29%
1996	SAA	9000	10	1	11	20	55%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1996	SAA	9-3	1	0	1	1	100%
1996	STRN	SC	104	55	159	503	32%
1996	STRN	SL	346	256	602	1831	33%
1996	STRN	SW	28	22	50	150	33%
1996	SUBA	IMPREZA	2	8	10	46	22%
1996	SUBA	LEGACY	30	31	61	246	25%
1996	SUZI	ESTEEM	1	2	3	10	30%
1996	SUZI	SIDEKICK	6	7	13	63	21%
1996	SUZI	X90	1	1	2	12	17%
1996	TOYT	4RUNNER	45	7	52	190	27%
1996	TOYT	AVALON	109	70	179	436	41%
1996	TOYT	CAMRY	478	322	800	2252	36%
1996	TOYT	CELICA	12	10	22	94	23%
1996	TOYT	COROLLA	229	174	403	1192	34%
1996	TOYT	LAND CRUISER	15	4	19	60	32%
1996	TOYT	PASEO	4	5	9	34	26%
1996	TOYT	PREVIA	6	4	10	27	37%
1996	TOYT	RAV4	23	20	43	187	23%
1996	TOYT	T100	10	1	11	58	19%
1996	TOYT	TACOMA	25	31	56	233	24%
1996	TOYT	TERCEL	23	24	47	201	23%
1996	VOLK	CABRIO	1	4	5	33	15%
1996	VOLK	GOLF	9	5	14	75	19%
1996	VOLK	GTI	3	5	8	20	40%
1996	VOLK	JETTA	56	41	97	329	29%
1996	VOLK	PASSAT	5	2	7	50	14%
1996	VOLV	850	125	26	151	493	31%
1996	VOLV	960	22	6	28	111	25%
1995	ACUR	INTEGRA	3	3	6	100	6%
1995	ACUR	LEGEND	1	2	3	33	9%
1995	BMW	318I	0	2	2	24	8%
1995	BMW	318IC	1	0	1	3	33%
1995	BMW	525I	3	1	4	36	11%
1995	BMW	540I	0	1	1	11	9%
1995	BMW	740I	0	4	4	29	14%
1995	BUIC	CENTURY	9	0	9	177	5%
1995	BUIC	LESABRE	8	8	16	223	7%
1995	BUIC	PARK AVENUE	2	0	2	61	3%
1995	BUIC	REGAL	3	5	8	103	8%
1995	BUIC	RIVIERA	4	3	7	77	9%
1995	BUIC	ROADMASTER	1	2	3	37	8%
1995	BUIC	SKYLARK	2	0	2	78	3%
1995	CADI	DEVILLE	4	1	5	166	3%
1995	CADI	ELDORADO	1	1	2	31	6%
1995	CADI	SEVILLE	1	2	3	67	4%
1995	CHEV	ASTRO VAN	7	0	7	133	5%
1995	CHEV	BERETTA	4	0	4	188	2%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1995	CHEV	BLAZER	5	6	11	261	4%
1995	CHEV	C1500	7	0	7	189	4%
1995	CHEV	CAMARO	2	0	2	202	1%
1995	CHEV	CAPRICE	1	0	1	76	1%
1995	CHEV	CAVALIER	4	1	5	302	2%
1995	CHEV	CORSICA	5	0	5	266	2%
1995	CHEV	G10	1	0	1	10	10%
1995	CHEV	G20	1	0	1	73	1%
1995	CHEV	G30	1	0	1	12	8%
1995	CHEV	K1500	9	1	10	367	3%
1995	CHEV	K2500	1	0	1	18	6%
1995	CHEV	LUMINA	19	4	23	476	5%
1995	CHEV	MONTE CARLO	6	2	8	169	5%
1995	CHEV	S10	5	1	6	317	2%
1995	CHEV	SUBURBAN	3	0	3	77	4%
1995	CHRY	CIRRUS	4	1	5	133	4%
1995	CHRY	CONCORDE	1	0	1	90	1%
1995	CHRY	LEBARON	5	2	7	129	5%
1995	CHRY	LHS	1	0	1	56	2%
1995	CHRY	SEBRING	2	1	3	54	6%
1995	DODG	AVENGER	0	1	1	91	1%
1995	DODG	CARAVAN	11	2	13	307	4%
1995	DODG	DAKOTA	1	0	1	168	1%
1995	DODG	INTREPID	11	3	14	342	4%
1995	DODG	NEON	3	5	8	380	2%
1995	DODG	RAM 1500	2	1	3	275	1%
1995	DODG	RAM 2500	1	0	1	16	6%
1995	DODG	STEALTH	0	1	1	11	9%
1995	DODG	STRATUS	0	2	2	87	2%
1995	EGIL	SUMMIT	1	0	1	5	20%
1995	EGIL	TALON	0	1	1	109	1%
1995	EGIL	VISION	1	1	2	34	6%
1995	FORD	ASPIRE	2	1	3	113	3%
1995	FORD	BRONCO	1	0	1	51	2%
1995	FORD	CONTOUR	8	0	8	282	3%
1995	FORD	CROWN VICTORIA	2	0	2	194	1%
1995	FORD	ECONOLINE	2	0	2	91	2%
1995	FORD	ESCORT	19	13	32	601	5%
1995	FORD	EXPLORER	11	9	20	346	6%
1995	FORD	F150	16	10	26	632	4%
1995	FORD	F250	1	0	1	9	11%
1995	FORD	MUSTANG	2	5	7	314	2%
1995	FORD	RANGER	2	4	6	288	2%
1995	FORD	TAURUS	18	17	35	652	5%
1995	FORD	THUNDERBIRD	1	2	3	161	2%
1995	FORD	WINDSTAR	14	10	24	421	6%
1995	GEO	PRIZM	4	4	8	114	7%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1995	GMC	JIMMY	5	3	8	127	6%
1995	GMC	SAFARI	3	0	3	173	2%
1995	GMC	SIERRA	2	0	2	190	1%
1995	GMC	SONOMA	1	0	1	84	1%
1995	GMC	VANDURA	11	0	11	228	5%
1995	HOND	ACCORD	14	10	24	320	8%
1995	HOND	CIVIC	7	10	17	296	6%
1995	HOND	ODYSSEY	1	3	4	31	13%
1995	HOND	PASSPORT	2	0	2	37	5%
1995	HYUN	ELANTRA	1	0	1	50	2%
1995	HYUN	SCOUPE	1	0	1	8	13%
1995	HYUN	SONATA	2	0	2	39	5%
1995	INFI	G20	0	1	1	35	3%
1995	INFI	Q45	1	0	1	10	10%
1995	ISU	RODEO	2	0	2	64	3%
1995	ISU	TROOPER	1	1	2	25	8%
1995	JAGU	XJS	0	1	1	7	14%
1995	JEEP	CHEROKEE	10	0	10	549	2%
1995	LEXS	ES 300	3	4	7	45	16%
1995	LEXS	LS 400	2	2	4	22	18%
1995	LINC	CONTINENTAL	0	1	1	55	2%
1995	LINC	MARK VIII	0	4	4	31	13%
1995	LINC	TOWN CAR	4	3	7	162	4%
1995	MAZD	626	4	0	4	200	2%
1995	MAZD	B2300	1	0	1	15	7%
1995	MAZD	MILLENIA	2	0	2	63	3%
1995	MAZD	MX5 MIATA	0	1	1	26	4%
1995	MAZD	MX-6	4	1	5	41	12%
1995	MAZD	PROTEGE	2	0	2	97	2%
1995	MERC	COUGAR	1	0	1	113	1%
1995	MERC	GRAND MARQUIS	8	5	13	123	11%
1995	MERC	MYSTIQUE	1	1	2	101	2%
1995	MERC	SABLE	4	2	6	122	5%
1995	MERC	TRACER	1	4	5	88	6%
1995	MERC	VILLAGER	8	0	8	151	5%
1995	MERZ	220	1	0	1	21	5%
1995	MERZ	280	0	2	2	26	8%
1995	MERZ	320	2	0	2	32	6%
1995	MERZ	500	0	1	1	20	5%
1995	MITS	3000	3	1	4	30	13%
1995	MITS	GALANT	2	0	2	78	3%
1995	NISS	240SX	1	0	1	23	4%
1995	NISS	300ZX	1	0	1	13	8%
1995	NISS	ALTIMA	4	4	8	198	4%
1995	NISS	MAXIMA	11	6	17	181	9%
1995	NISS	PATHFINDER	4	1	5	69	7%
1995	NISS	QUEST	2	0	2	31	6%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1995	NISS	SENTRA	2	0	2	43	5%
1995	NISS	STANDARD	0	1	1	19	5%
1995	OLDS	98	3	3	6	37	16%
1995	OLDS	ACHIEVA	1	1	2	85	2%
1995	OLDS	AURORA	1	1	2	94	2%
1995	OLDS	CIERA	4	8	12	216	6%
1995	OLDS	CUTLASS	7	8	15	246	6%
1995	OLDS	DELTA 88	10	5	15	140	11%
1995	OLDS	SILHOUETTE	2	0	2	23	9%
1995	PLYM	NEON	3	4	7	315	2%
1995	PLYM	VOYAGER	1	10	11	270	4%
1995	PONT	BONNEVILLE	2	6	8	190	4%
1995	PONT	FIREBIRD	1	0	1	125	1%
1995	PONT	GRAND AM	8	1	9	492	2%
1995	PONT	GRAND PRIX	10	4	14	329	4%
1995	PONT	SUNFIRE	2	0	2	108	2%
1995	PONT	TRANS SPORT	1	0	1	41	2%
1995	PORS	911	1	0	1	14	7%
1995	SAA	9000	0	1	1	3	33%
1995	STRN	SC	2	0	2	143	1%
1995	STRN	SL	7	8	15	376	4%
1995	STRN	SW	1	1	2	26	8%
1995	SUBA	LEGACY	2	3	5	43	12%
1995	TOYT	4RUNNER	4	0	4	71	6%
1995	TOYT	AVALON	5	3	8	59	14%
1995	TOYT	CAMRY	17	17	34	340	10%
1995	TOYT	CELICA	3	1	4	43	9%
1995	TOYT	COROLLA	13	3	16	189	8%
1995	TOYT	DELUXE	1	0	1	3	33%
1995	TOYT	LAND CRUISER	1	0	1	9	11%
1995	TOYT	PREVIA	2	0	2	9	22%
1995	TOYT	T100	1	0	1	8	13%
1995	TOYT	TERCEL	0	4	4	64	6%
1995	VOLK	CABRIO	1	0	1	8	13%
1995	VOLK	JETTA	1	0	1	48	2%
1995	VOLV	850	4	2	6	90	7%
1995	VOLV	960	1	0	1	17	6%
1994	ACUR	INTEGRA	57	65	122	445	27%
1994	ACUR	LEGEND	28	39	67	233	29%
1994	ACUR	VIGOR	3	8	11	55	20%
1994	AUDI	100	2	0	2	14	14%
1994	AUDI	90	5	1	6	23	26%
1994	AUDI	CABRIOLET	2	4	6	18	33%
1994	AUDI	QUATTRO	0	1	1	2	50%
1994	BMW	318I	13	9	22	88	25%
1994	BMW	318IC	1	0	1	10	10%
1994	BMW	325I	34	35	69	229	30%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1994	BMW	525I	10	1	11	50	22%
1994	BMW	530I	2	11	13	40	33%
1994	BMW	540I	5	3	8	32	25%
1994	BMW	740I	3	5	8	38	21%
1994	BUIC	CENTURY	95	52	147	906	16%
1994	BUIC	LESABRE	152	94	246	841	29%
1994	BUIC	PARK AVENUE	56	57	113	372	30%
1994	BUIC	REGAL	54	68	122	400	31%
1994	BUIC	ROADMASTER	51	33	84	280	30%
1994	BUIC	SKYLARK	33	16	49	391	13%
1994	CADI	DEVILLE	95	39	134	717	19%
1994	CADI	ELDORADO	12	6	18	123	15%
1994	CADI	FLEETWOOD	16	9	25	121	21%
1994	CADI	SEVILLE	40	30	70	278	25%
1994	CHEV	ASTRO VAN	80	65	145	573	25%
1994	CHEV	BERETTA	46	4	50	423	12%
1994	CHEV	BLAZER	105	32	137	786	17%
1994	CHEV	C1500	155	57	212	1091	19%
1994	CHEV	C2500	12	2	14	65	22%
1994	CHEV	C3500	1	0	1	4	25%
1994	CHEV	CAMARO	75	21	96	634	15%
1994	CHEV	CAPRICE	49	15	64	406	16%
1994	CHEV	CAVALIER	212	211	423	2026	21%
1994	CHEV	CORSICA	146	6	152	1294	12%
1994	CHEV	CORVETTE	12	19	31	174	18%
1994	CHEV	G10	1	0	1	8	13%
1994	CHEV	G20	9	3	12	157	8%
1994	CHEV	G30	2	0	2	16	13%
1994	CHEV	IMPALA	2	0	2	7	29%
1994	CHEV	K1500	87	34	121	912	13%
1994	CHEV	K2500	5	4	9	86	10%
1994	CHEV	LUMINA	102	35	137	887	15%
1994	CHEV	S10	78	87	165	1039	16%
1994	CHEV	SUBURBAN	45	23	68	371	18%
1994	CHRY	CONCORDE	63	33	96	461	21%
1994	CHRY	LEBARON	57	22	79	580	14%
1994	CHRY	LHS	34	16	50	349	14%
1994	CHRY	NEW YORKER	22	8	30	177	17%
1994	CHRY	TOWN & COUNTRY	44	12	56	268	21%
1994	DODG	B150	7	0	7	85	8%
1994	DODG	B250	22	8	30	414	7%
1994	DODG	B350	5	0	5	19	26%
1994	DODG	CARAVAN	281	250	531	1941	27%
1994	DODG	COLT	1	0	1	26	4%
1994	DODG	DAKOTA	24	0	24	631	4%
1994	DODG	INTREPID	142	71	213	998	21%
1994	DODG	RAM 1500	70	37	107	853	13%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1994	DODG	RAM 2500	9	0	9	63	14%
1994	DODG	RAM VAN	2	0	2	2	100%
1994	DODG	SHADOW	43	19	62	802	8%
1994	DODG	SPIRIT	42	16	58	552	11%
1994	DODG	STEALTH	10	2	12	62	19%
1994	EGIL	SUMMIT	4	0	4	42	10%
1994	EGIL	TALON	16	8	24	184	13%
1994	EGIL	VISION	18	10	28	134	21%
1994	FORD	AEROSTAR	49	28	77	674	11%
1994	FORD	ASPIRE	16	16	32	184	17%
1994	FORD	BRONCO	11	22	33	152	22%
1994	FORD	CLUB WAGON	2	0	2	72	3%
1994	FORD	CROWN VICTORIA	48	0	48	478	10%
1994	FORD	ECONOLINE	70	47	117	667	18%
1994	FORD	ESCORT	233	192	425	1828	23%
1994	FORD	EXPLORER	202	245	447	1998	22%
1994	FORD	F150	259	163	422	2377	18%
1994	FORD	F250	8	0	8	24	33%
1994	FORD	MUSTANG	69	56	125	620	20%
1994	FORD	PROBE	52	17	69	613	11%
1994	FORD	RANGER	153	216	369	2287	16%
1994	FORD	TAURUS	241	262	503	1971	26%
1994	FORD	TEMPO	78	62	140	1265	11%
1994	FORD	THUNDERBIRD	54	38	92	513	18%
1994	GEO	METRO	10	7	17	299	6%
1994	GEO	PRIZM	72	33	105	619	17%
1994	GEO	TRACKER	6	12	18	228	8%
1994	GMC	C1500	10	2	12	67	18%
1994	GMC	JIMMY	62	56	118	505	23%
1994	GMC	K1500	15	10	25	105	24%
1994	GMC	SAFARI	115	103	218	744	29%
1994	GMC	SIERRA	103	29	132	869	15%
1994	GMC	SONOMA	31	37	68	364	19%
1994	GMC	VANDURA	52	0	52	566	9%
1994	GMC	YUKON	8	7	15	70	21%
1994	HINO	FE	1	0	1	1	100%
1994	HOND	ACCORD	372	239	611	2055	30%
1994	HOND	CIVIC	102	109	211	967	22%
1994	HOND	PASSPORT	10	4	14	53	26%
1994	HOND	PRELUDE	21	16	37	104	36%
1994	HYUN	ELANTRA	6	1	7	117	6%
1994	HYUN	EXCEL	12	6	18	152	12%
1994	HYUN	SCOUPE	1	1	2	24	8%
1994	HYUN	SONATA	2	0	2	27	7%
1994	INFI	G20	17	17	34	106	32%
1994	INFI	J30	42	29	71	187	38%
1994	INFI	Q45	28	20	48	129	37%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1994	ISU	AMIGO	2	0	2	17	12%
1994	ISU	CAB	4	1	5	49	10%
1994	ISU	RODEO	24	27	51	189	27%
1994	ISU	TROOPER	24	8	32	123	26%
1994	JAGU	VDP	4	1	5	22	23%
1994	JAGU	XJ12	1	0	1	4	25%
1994	JAGU	XJ6	15	8	23	69	33%
1994	JAGU	XJS	6	2	8	45	18%
1994	JEEP	CHEROKEE	224	75	299	2319	13%
1994	JEEP	WRANGLER	15	6	21	395	5%
1994	KIA	SEPHIA	1	0	1	6	17%
1994	LEXS	ES 300	65	34	99	263	38%
1994	LEXS	GS 300	21	8	29	61	48%
1994	LEXS	LS 400	21	13	34	95	36%
1994	LEXS	SC 300	2	0	2	17	12%
1994	LEXS	SC 400	4	2	6	11	55%
1994	LINC	CONTINENTAL	31	30	61	248	25%
1994	LINC	MARK VIII	28	22	50	168	30%
1994	LINC	TOWN CAR	75	36	111	733	15%
1994	LNDR	DISCOVERY	3	0	3	12	25%
1994	MAZD	323	3	1	4	40	10%
1994	MAZD	626	74	25	99	578	17%
1994	MAZD	929	15	5	20	37	54%
1994	MAZD	B2300	13	24	37	180	21%
1994	MAZD	B3000	6	7	13	172	8%
1994	MAZD	B4000	13	13	26	125	21%
1994	MAZD	MPV WAGON	14	3	17	79	22%
1994	MAZD	MX3	19	2	21	128	16%
1994	MAZD	MX5 MIATA	14	6	20	121	17%
1994	MAZD	MX-6	15	7	22	123	18%
1994	MAZD	NAVAJO	3	6	9	45	20%
1994	MAZD	PROTEGE	46	21	67	602	11%
1994	MERC	CAPRI	1	0	1	30	3%
1994	MERC	COUGAR	56	62	118	507	23%
1994	MERC	GRAND MARQUIS	65	35	100	634	16%
1994	MERC	SABLE	64	65	129	480	27%
1994	MERC	TOPAZ	25	11	36	360	10%
1994	MERC	TRACER	25	28	53	244	22%
1994	MERC	VILLAGER	86	21	107	458	23%
1994	MERZ	220	2	1	3	29	10%
1994	MERZ	280	14	8	22	48	46%
1994	MERZ	320	13	0	13	116	11%
1994	MERZ	400	0	1	1	1	100%
1994	MERZ	420	2	1	3	29	10%
1994	MERZ	500	0	1	1	28	4%
1994	MITS	3000	10	14	24	108	22%
1994	MITS	DIAMANTE	8	3	11	46	24%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1994	MITS	ECLIPSE	16	9	25	190	13%
1994	MITS	EXPO	6	1	7	36	19%
1994	MITS	GALANT	33	6	39	271	14%
1994	MITS	MIGHTY MAX	2	0	2	12	17%
1994	MITS	MIRAGE	8	4	12	55	22%
1994	MITS	MONTERO	2	2	4	41	10%
1994	NISS	240SX	1	0	1	8	13%
1994	NISS	300ZX	3	1	4	32	13%
1994	NISS	ALTIMA	127	41	168	964	17%
1994	NISS	KING CAB	5	6	11	87	13%
1994	NISS	MAXIMA	55	56	111	351	32%
1994	NISS	PATHFINDER	17	15	32	166	19%
1994	NISS	QUEST	23	13	36	163	22%
1994	NISS	SENTRA	98	37	135	684	20%
1994	NISS	STANDARD	3	8	11	118	9%
1994	OLDS	98	19	19	38	155	25%
1994	OLDS	ACHIEVA	42	9	51	290	18%
1994	OLDS	BRAVADA	11	7	18	89	20%
1994	OLDS	CUTLASS	231	146	377	1706	22%
1994	OLDS	DELTA 88	91	85	176	552	32%
1994	OLDS	SILHOUETTE	18	14	32	79	41%
1994	PLYM	ACCLAIM	21	24	45	367	12%
1994	PLYM	COLT	3	0	3	14	21%
1994	PLYM	LASER	4	0	4	38	11%
1994	PLYM	SUNDANCE	37	20	57	538	11%
1994	PLYM	VOYAGER	170	160	330	1278	26%
1994	PONT	BONNEVILLE	115	90	205	624	33%
1994	PONT	FIREBIRD	40	10	50	367	14%
1994	PONT	GRAND AM	159	27	186	1294	14%
1994	PONT	GRAND PRIX	112	31	143	831	17%
1994	PONT	SUNBIRD	61	22	83	553	15%
1994	PONT	TRANS SPORT	24	23	47	153	31%
1994	PORS	911	1	0	1	5	20%
1994	PORS	968	1	0	1	8	13%
1994	SAA	900	8	2	10	71	14%
1994	SAA	9000	1	3	4	11	36%
1994	STRN	SC	57	44	101	581	17%
1994	STRN	SL	144	174	318	1562	20%
1994	STRN	SW	19	25	44	151	29%
1994	SUBA	IMPREZA	2	2	4	22	18%
1994	SUBA	LEGACY	18	9	27	122	22%
1994	SUBA	SVX	9	3	12	28	43%
1994	SUZI	SIDEKICK	7	9	16	99	16%
1994	SUZI	SWIFT	3	1	4	15	27%
1994	TOYT	1/2 TON	4	8	12	55	22%
1994	TOYT	4RUNNER	23	32	55	172	32%
1994	TOYT	CAMRY	324	277	601	1840	33%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1994	TOYT	CELICA	48	43	91	314	29%
1994	TOYT	COROLLA	116	70	186	1026	18%
1994	TOYT	DELUXE	5	10	15	120	13%
1994	TOYT	LAND CRUISER	20	0	20	55	36%
1994	TOYT	LONG BED	5	7	12	73	16%
1994	TOYT	PASEO	6	0	6	60	10%
1994	TOYT	PREVIA	7	5	12	50	24%
1994	TOYT	SHORT BED	11	16	27	140	19%
1994	TOYT	SR5	3	3	6	17	35%
1994	TOYT	T100	3	8	11	31	35%
1994	TOYT	TERCEL	29	8	37	331	11%
1994	VOLK	GOLF	3	2	5	32	16%
1994	VOLK	JETTA	11	7	18	129	14%
1994	VOLK	PASSAT	3	1	4	19	21%
1994	VOLV	850	66	34	100	304	33%
1994	VOLV	940	28	3	31	138	22%
1994	VOLV	960	21	2	23	46	50%
1993	ACUR	INTEGRA	1	0	1	39	3%
1993	ACUR	LEGEND	1	1	2	30	7%
1993	AUDI	90	1	0	1	12	8%
1993	BUIC	CENTURY	2	0	2	138	1%
1993	BUIC	LESABRE	4	5	9	179	5%
1993	BUIC	PARK AVENUE	3	0	3	46	7%
1993	BUIC	REGAL	4	1	5	108	5%
1993	BUIC	ROADMASTER	2	1	3	33	9%
1993	BUIC	SKYLARK	2	0	2	88	2%
1993	CADI	DEVILLE	2	0	2	166	1%
1993	CADI	ELDORADO	1	0	1	29	3%
1993	CADI	SEVILLE	2	0	2	45	4%
1993	CHEV	ASTRO VAN	1	0	1	129	1%
1993	CHEV	BLAZER	5	0	5	222	2%
1993	CHEV	C1500	1	0	1	198	1%
1993	CHEV	CAPRICE	4	0	4	104	4%
1993	CHEV	CAVALIER	4	0	4	487	1%
1993	CHEV	CORVETTE	1	0	1	40	3%
1993	CHEV	LUMINA	3	0	3	423	1%
1993	CHEV	S10	1	1	2	179	1%
1993	CHEV	SUBURBAN	1	0	1	61	2%
1993	CHRY	LEBARON	3	0	3	154	2%
1993	CHRY	NEW YORKER	1	0	1	64	2%
1993	CHRY	TOWN & COUNTRY	1	0	1	46	2%
1993	DODG	B250	2	0	2	23	9%
1993	DODG	CARAVAN	4	0	4	417	1%
1993	DODG	INTREPID	2	0	2	147	1%
1993	DODG	SHADOW	2	0	2	272	1%
1993	DODG	SPIRIT	2	0	2	126	2%
1993	DODG	STEALTH	0	1	1	21	5%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1993	EGIL	VISION	4	0	4	47	9%
1993	FORD	AEROSTAR	3	0	3	241	1%
1993	FORD	ECONOLINE	1	0	1	106	1%
1993	FORD	ESCORT	8	0	8	583	1%
1993	FORD	EXPLORER	6	0	6	456	1%
1993	FORD	F150	13	0	13	520	3%
1993	FORD	PROBE	1	0	1	222	0%
1993	FORD	RANGER	5	5	10	442	2%
1993	FORD	TAURUS	10	5	15	636	2%
1993	FORD	TEMPO	4	3	7	516	1%
1993	FORD	THUNDERBIRD	3	4	7	161	4%
1993	GEO	TRACKER	0	1	1	36	3%
1993	GMC	JIMMY	2	0	2	81	2%
1993	GMC	SAFARI	1	0	1	90	1%
1993	GMC	SIERRA	5	0	5	170	3%
1993	HOND	ACCORD	6	1	7	311	2%
1993	HOND	CIVIC	1	0	1	217	0%
1993	HOND	PRELUDE	0	1	1	39	3%
1993	HYUN	ELANTRA	1	0	1	31	3%
1993	HYUN	SCOUPE	1	0	1	5	20%
1993	INFI	G20	2	0	2	46	4%
1993	INFI	J30	1	0	1	55	2%
1993	ISU	RODEO	1	0	1	29	3%
1993	JAGU	XJ6	1	0	1	13	8%
1993	JEEP	CHEROKEE	7	1	8	439	2%
1993	JEEP	WRANGLER	2	0	2	69	3%
1993	LEXS	ES 300	5	0	5	52	10%
1993	LEXS	LS 400	3	2	5	22	23%
1993	LEXS	SC 400	1	0	1	9	11%
1993	LINC	MARK VIII	2	1	3	42	7%
1993	LINC	TOWN CAR	6	0	6	127	5%
1993	MAZD	626	2	0	2	112	2%
1993	MAZD	B2600	1	0	1	13	8%
1993	MAZD	MPV WAGON	1	0	1	18	6%
1993	MAZD	MX3	2	0	2	72	3%
1993	MAZD	MX5 MIATA	1	0	1	17	6%
1993	MAZD	PROTEGE	1	0	1	101	1%
1993	MERC	COUGAR	1	2	3	130	2%
1993	MERC	GRAND MARQUIS	4	0	4	125	3%
1993	MERC	SABLE	3	3	6	141	4%
1993	MERC	TOPAZ	1	2	3	105	3%
1993	MERC	TRACER	2	0	2	100	2%
1993	MERC	VILLAGER	5	0	5	129	4%
1993	MERZ	190	1	1	2	17	12%
1993	MITS	3000	1	0	1	26	4%
1993	MITS	DIAMANTE	2	0	2	33	6%
1993	MITS	EXPO	1	0	1	11	9%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1993	NISS	ALTIMA	5	0	5	222	2%
1993	NISS	KING CAB	1	0	1	17	6%
1993	NISS	MAXIMA	4	2	6	119	5%
1993	OLDS	98	1	0	1	20	5%
1993	OLDS	ACHIEVA	2	0	2	59	3%
1993	OLDS	BRAVADA	1	0	1	15	7%
1993	OLDS	CUTLASS	4	0	4	365	1%
1993	OLDS	DELTA 88	1	0	1	82	1%
1993	OLDS	SILHOUETTE	1	0	1	7	14%
1993	PLYM	ACCLAIM	2	0	2	90	2%
1993	PLYM	VOYAGER	4	0	4	244	2%
1993	PONT	BONNEVILLE	5	0	5	198	3%
1993	PONT	GRAND AM	5	1	6	406	1%
1993	PONT	GRAND PRIX	5	0	5	173	3%
1993	PONT	SUNBIRD	0	1	1	147	1%
1993	SAA	900	2	0	2	13	15%
1993	SAA	9000	1	0	1	6	17%
1993	STRN	SC	2	1	3	129	2%
1993	STRN	SL	3	3	6	332	2%
1993	STRN	SW	0	1	1	22	5%
1993	SUBA	LEGACY	1	1	2	42	5%
1993	TOYT	CAMRY	16	6	22	324	7%
1993	TOYT	COROLLA	4	0	4	200	2%
1993	TOYT	MR2	0	1	1	4	25%
1993	TOYT	PREVIA	2	0	2	15	13%
1993	TOYT	T100	1	0	1	10	10%
1993	TOYT	TERCEL	2	0	2	55	4%
1993	VOLV	240	3	0	3	19	16%
1993	VOLV	850	1	1	2	31	6%
1992	ACUR	INTEGRA	17	5	22	207	11%
1992	ACUR	LEGEND	18	33	51	234	22%
1992	ACUR	VIGOR	8	7	15	95	16%
1992	ALFA	164	1	0	1	2	50%
1992	AUDI	100	10	2	12	56	21%
1992	BMW	318I	4	5	9	38	24%
1992	BMW	325I	12	14	26	175	15%
1992	BMW	525I	13	9	22	110	20%
1992	BMW	735I	2	4	6	14	43%
1992	BMW	750IL	1	0	1	8	13%
1992	BUIC	CENTURY	62	15	77	723	11%
1992	BUIC	LESABRE	70	0	70	836	8%
1992	BUIC	PARK AVENUE	39	3	42	327	13%
1992	BUIC	REGAL	58	16	74	436	17%
1992	BUIC	RIVIERA	11	7	18	92	20%
1992	BUIC	ROADMASTER	48	11	59	377	16%
1992	BUIC	SKYLARK	25	0	25	265	9%
1992	CADI	ALLANTE	1	0	1	8	13%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1992	CADI	BROUGHAM	9	8	17	66	26%
1992	CADI	DEVILLE	59	0	59	618	10%
1992	CADI	ELDORADO	15	4	19	139	14%
1992	CADI	FLEETWOOD	3	0	3	49	6%
1992	CADI	SEVILLE	12	8	20	203	10%
1992	CHEV	ASTRO VAN	10	4	14	499	3%
1992	CHEV	BERETTA	12	2	14	228	6%
1992	CHEV	BLAZER	35	26	61	575	11%
1992	CHEV	C10	1	0	1	1	100%
1992	CHEV	C1500	22	7	29	744	4%
1992	CHEV	C20	1	0	1	1	100%
1992	CHEV	C2500	2	0	2	45	4%
1992	CHEV	CAMARO	20	0	20	403	5%
1992	CHEV	CAPRICE	29	0	29	288	10%
1992	CHEV	CAVALIER	116	52	168	1596	11%
1992	CHEV	CORSICA	45	0	45	666	7%
1992	CHEV	CORVETTE	7	0	7	111	6%
1992	CHEV	G20	8	0	8	183	4%
1992	CHEV	G30	2	0	2	20	10%
1992	CHEV	K1500	13	5	18	463	4%
1992	CHEV	LUMINA	141	31	172	1563	11%
1992	CHEV	S10	39	24	63	817	8%
1992	CHEV	SUBURBAN	12	2	14	146	10%
1992	CHRY	IMPERIAL	1	1	2	31	6%
1992	CHRY	LEBARON	33	13	46	522	9%
1992	CHRY	NEW YORKER	19	6	25	365	7%
1992	CHRY	TOWN & COUNTRY	7	3	10	78	13%
1992	DODG	B250	9	0	9	217	4%
1992	DODG	B350	2	0	2	11	18%
1992	DODG	CARAVAN	80	12	92	1314	7%
1992	DODG	COLT	1	1	2	21	10%
1992	DODG	D-150	1	0	1	90	1%
1992	DODG	D-250	1	0	1	7	14%
1992	DODG	DAKOTA	29	0	29	842	3%
1992	DODG	DAYTONA	4	0	4	69	6%
1992	DODG	DYNASTY	20	0	20	515	4%
1992	DODG	RAM VAN	1	0	1	1	100%
1992	DODG	SHADOW	13	3	16	539	3%
1992	DODG	SPIRIT	17	0	17	458	4%
1992	DODG	STEALTH	4	1	5	94	5%
1992	EGIL	SUMMIT	1	1	2	50	4%
1992	EGIL	TALON	4	0	4	137	3%
1992	FORD	AEROSTAR	26	20	46	462	10%
1992	FORD	BRONCO	9	1	10	114	9%
1992	FORD	CLUB WAGON	5	2	7	70	10%
1992	FORD	CROWN VICTORIA	36	2	38	542	7%
1992	FORD	ECONOLINE	38	11	49	453	11%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1992	FORD	ESCORT	59	35	94	887	11%
1992	FORD	EXPLORER	72	54	126	1295	10%
1992	FORD	F150	131	54	185	1606	12%
1992	FORD	F250	2	0	2	23	9%
1992	FORD	FESTIVA	1	1	2	72	3%
1992	FORD	MUSTANG	14	3	17	327	5%
1992	FORD	PROBE	29	22	51	258	20%
1992	FORD	RANGER	41	74	115	1052	11%
1992	FORD	TAURUS	146	137	283	1522	19%
1992	FORD	TEMPO	67	86	153	1135	13%
1992	FORD	THUNDERBIRD	12	21	33	213	15%
1992	GEO	METRO	3	0	3	274	1%
1992	GEO	PRIZM	42	19	61	537	11%
1992	GEO	STORM	7	1	8	146	5%
1992	GEO	TRACKER	1	2	3	148	2%
1992	GMC	C1500	4	4	8	52	15%
1992	GMC	JIMMY	21	14	35	233	15%
1992	GMC	K1500	3	0	3	48	6%
1992	GMC	SAFARI	30	22	52	754	7%
1992	GMC	SIERRA	32	0	32	714	4%
1992	GMC	SONOMA	21	17	38	371	10%
1992	GMC	VANDURA	41	19	60	895	7%
1992	GMC	YUKON	1	0	1	32	3%
1992	HOND	ACCORD	298	70	368	1814	20%
1992	HOND	CIVIC	48	64	112	714	16%
1992	HOND	PRELUDE	17	5	22	178	12%
1992	HYUN	ELANTRA	2	0	2	32	6%
1992	HYUN	EXCEL	4	2	6	48	13%
1992	INFI	G20	8	2	10	134	7%
1992	INFI	M30	3	1	4	22	18%
1992	INFI	Q45	13	9	22	80	28%
1992	ISU	CAB	1	0	1	93	1%
1992	ISU	RODEO	3	0	3	132	2%
1992	ISU	TROOPER	2	3	5	38	13%
1992	JAGU	XJ6	7	0	7	47	15%
1992	JAGU	XJS	1	0	1	19	5%
1992	JEEP	CHEROKEE	101	27	128	649	20%
1992	JEEP	COMANCHE	1	0	1	10	10%
1992	JEEP	WRANGLER	3	3	6	171	4%
1992	LEXS	ES 300	30	6	36	195	18%
1992	LEXS	LS 400	20	12	32	83	39%
1992	LEXS	SC 300	8	6	14	54	26%
1992	LEXS	SC 400	16	8	24	73	33%
1992	LINC	CONTINENTAL	10	22	32	192	17%
1992	LINC	MARK VII	5	0	5	39	13%
1992	LINC	TOWN CAR	54	18	72	566	13%
1992	LNDR	RANGE ROVER	1	0	1	6	17%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1992	MAZD	323	5	0	5	57	9%
1992	MAZD	626	9	15	24	120	20%
1992	MAZD	929	4	6	10	77	13%
1992	MAZD	B2600	1	0	1	63	2%
1992	MAZD	MPV WAGON	8	2	10	131	8%
1992	MAZD	MX3	9	6	15	140	11%
1992	MAZD	MX5 MIATA	6	6	12	97	12%
1992	MAZD	MX6	3	8	11	34	32%
1992	MAZD	NAVAJO	3	2	5	32	16%
1992	MAZD	PROTEGE	16	9	25	313	8%
1992	MERC	CAPRI	0	2	2	31	6%
1992	MERC	COUGAR	26	17	43	298	14%
1992	MERC	GRAND MARQUIS	62	40	102	804	13%
1992	MERC	SABLE	61	74	135	658	21%
1992	MERC	TOPAZ	24	11	35	432	8%
1992	MERC	TRACER	7	5	12	102	12%
1992	MERZ	190	5	6	11	76	14%
1992	MERZ	260	0	1	1	1	100%
1992	MERZ	300	12	1	13	91	14%
1992	MERZ	320	2	0	2	2	100%
1992	MERZ	400	9	0	9	44	20%
1992	MERZ	500	11	0	11	64	17%
1992	MERZ	600	3	0	3	7	43%
1992	MITS	3000	7	2	9	52	17%
1992	MITS	DIAMANTE	10	0	10	88	11%
1992	MITS	ECLIPSE	14	3	17	175	10%
1992	MITS	EXPO	7	0	7	68	10%
1992	MITS	GALANT	6	0	6	81	7%
1992	MITS	MIRAGE	7	0	7	37	19%
1992	MITS	MONTERO	2	0	2	17	12%
1992	MITS	PRECIS	1	0	1	4	25%
1992	NISS	240SX	2	1	3	84	4%
1992	NISS	300ZX	2	0	2	18	11%
1992	NISS	KING CAB	0	2	2	41	5%
1992	NISS	LONG BED	1	0	1	1	100%
1992	NISS	MAXIMA	42	18	60	309	19%
1992	NISS	NX	3	1	4	24	17%
1992	NISS	PATHFINDER	4	1	5	63	8%
1992	NISS	SENTRA	29	20	49	398	12%
1992	NISS	SHORT BED	1	3	4	59	7%
1992	NISS	STANZA	24	2	26	219	12%
1992	OLDS	98	26	0	26	256	10%
1992	OLDS	ACHIEVA	23	13	36	283	13%
1992	OLDS	BRAVADA	4	3	7	51	14%
1992	OLDS	CUTLASS	157	4	161	1344	12%
1992	OLDS	DELTA 88	72	0	72	668	11%
1992	OLDS	SILHOUETTE	9	0	9	44	20%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1992	OLDS	TORONADO	5	0	5	33	15%
1992	PLYM	ACCLAIM	15	3	18	389	5%
1992	PLYM	COLT	7	1	8	42	19%
1992	PLYM	LASER	4	1	5	128	4%
1992	PLYM	SUNDANCE	11	1	12	353	3%
1992	PLYM	VOYAGER	58	25	83	1017	8%
1992	PONT	BONNEVILLE	86	6	92	789	12%
1992	PONT	FIREBIRD	11	0	11	193	6%
1992	PONT	GRAND AM	95	5	100	955	10%
1992	PONT	GRAND PRIX	37	6	43	514	8%
1992	PONT	SUNBIRD	31	24	55	412	13%
1992	PONT	TRANS SPORT	14	1	15	140	11%
1992	PORS	911	1	0	1	9	11%
1992	SAA	900	8	5	13	46	28%
1992	SAA	9000	3	3	6	27	22%
1992	STRN	SC	8	0	8	198	4%
1992	STRN	SL	43	8	51	953	5%
1992	SUBA	LEGACY	12	12	24	173	14%
1992	SUBA	LOYALE	3	4	7	59	12%
1992	SUBA	SVX	5	3	8	39	21%
1992	SUZI	SIDEKICK	0	2	2	56	4%
1992	TOYT	4RUNNER	7	8	15	80	19%
1992	TOYT	CAMRY	281	82	363	1605	23%
1992	TOYT	CELICA	29	30	59	328	18%
1992	TOYT	COROLLA	88	48	136	1066	13%
1992	TOYT	DELUXE	19	24	43	170	25%
1992	TOYT	LAND CRUISER	2	0	2	39	5%
1992	TOYT	MR2	0	1	1	23	4%
1992	TOYT	PASEO	17	7	24	225	11%
1992	TOYT	PREVIA	16	14	30	205	15%
1992	TOYT	SHORT BED	4	10	14	71	20%
1992	TOYT	SR5	0	1	1	8	13%
1992	TOYT	TERCEL	19	0	19	227	8%
1992	VOLK	CABRIOLET	4	0	4	26	15%
1992	VOLK	CORRADO	1	0	1	10	10%
1992	VOLK	GOLF	4	0	4	29	14%
1992	VOLK	JETTA	6	0	6	55	11%
1992	VOLV	240	18	1	19	104	18%
1992	VOLV	740	9	1	10	71	14%
1992	VOLV	940	14	7	21	102	21%
1992	VOLV	960	6	1	7	34	21%
1991	ACUR	INTEGRA	1	0	1	105	1%
1991	ACUR	LEGEND	0	1	1	70	1%
1991	AUDI	90	1	0	1	2	50%
1991	BUIC	CENTURY	2	0	2	162	1%
1991	BUIC	LESABRE	2	0	2	89	2%
1991	BUIC	PARK AVENUE	2	0	2	114	2%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1991	BUIC	REGAL	2	0	2	156	1%
1991	CADI	DEVILLE	1	0	1	160	1%
1991	CHEV	BERETTA	1	0	1	110	1%
1991	CHEV	BLAZER	5	0	5	219	2%
1991	CHEV	CAMARO	1	0	1	147	1%
1991	CHEV	CAPRICE	4	0	4	157	3%
1991	CHEV	CAVALIER	1	0	1	519	0%
1991	CHEV	CORSICA	1	0	1	280	0%
1991	CHEV	K1500	1	0	1	98	1%
1991	CHEV	LUMINA	3	0	3	344	1%
1991	CHEV	S10	2	0	2	392	1%
1991	CHRY	NEW YORKER	1	0	1	68	1%
1991	DODG	DAKOTA	1	0	1	121	1%
1991	FORD	BRONCO	1	0	1	26	4%
1991	FORD	ECONOLINE	1	0	1	66	2%
1991	FORD	ESCORT	3	0	3	471	1%
1991	FORD	EXPLORER	3	0	3	356	1%
1991	FORD	F150	2	0	2	353	1%
1991	FORD	MUSTANG	1	0	1	149	1%
1991	FORD	PROBE	1	1	2	99	2%
1991	FORD	TEMPO	1	0	1	317	0%
1991	GEO	PRIZM	1	0	1	132	1%
1991	GMC	JIMMY	2	0	2	98	2%
1991	GMC	R1500	1	0	1	7	14%
1991	GMC	SAFARI	1	0	1	105	1%
1991	GMC	SIERRA	1	0	1	117	1%
1991	GMC	SONOMA	1	0	1	97	1%
1991	GMC	VANDURA	1	0	1	118	1%
1991	HOND	ACCORD	8	0	8	394	2%
1991	HOND	CIVIC	1	2	3	256	1%
1991	INFI	G20	1	0	1	31	3%
1991	LEXS	LS 400	1	4	5	32	16%
1991	MAZD	626	3	0	3	119	3%
1991	MAZD	B2200	1	0	1	37	3%
1991	MERC	COUGAR	2	0	2	112	2%
1991	MERC	SABLE	2	0	2	137	1%
1991	MERC	TRACER	1	1	2	73	3%
1991	MITS	ECLIPSE	1	0	1	67	1%
1991	MITS	GALANT	1	0	1	43	2%
1991	NISS	MAXIMA	2	0	2	111	2%
1991	NISS	STANZA	1	0	1	60	2%
1991	OLDS	98	1	0	1	55	2%
1991	OLDS	CUTLASS	2	0	2	442	0%
1991	OLDS	DELTA 88	3	0	3	80	4%
1991	PLYM	ARROW	1	0	1	30	3%
1991	PONT	FIREBIRD	2	0	2	90	2%
1991	PONT	GRAND AM	1	0	1	280	0%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1991	PONT	GRAND PRIX	1	0	1	131	1%
1991	SUBA	LEGACY	2	0	2	49	4%
1991	TOYT	4RUNNER	0	1	1	26	4%
1991	TOYT	CAMRY	6	0	6	400	2%
1991	TOYT	COROLLA	7	1	8	259	3%
1991	TOYT	PREVIA	1	0	1	39	3%
1991	TOYT	SR5	1	0	1	1	100%
1991	VOLV	740	5	0	5	45	11%
1990	ACUR	INTEGRA	24	11	35	385	9%
1990	ACUR	LEGEND	20	0	20	202	10%
1990	AUDI	80	1	0	1	19	5%
1990	AUDI	90	1	0	1	21	5%
1990	BMW	325I	8	7	15	104	14%
1990	BMW	525I	16	3	19	76	25%
1990	BMW	535I	7	6	13	40	33%
1990	BMW	735I	3	1	4	30	13%
1990	BMW	750IL	1	0	1	15	7%
1990	BUIC	CENTURY	34	3	37	525	7%
1990	BUIC	ELECTRA	21	0	21	190	11%
1990	BUIC	LESABRE	84	0	84	766	11%
1990	BUIC	REATTA	3	0	3	32	9%
1990	BUIC	REGAL	13	8	21	203	10%
1990	BUIC	RIVIERA	9	10	19	119	16%
1990	BUIC	SKYLARK	21	0	21	354	6%
1990	CADI	ALLANTE	1	0	1	15	7%
1990	CADI	BROUGHAM	10	0	10	157	6%
1990	CADI	DEVILLE	45	0	45	707	6%
1990	CADI	ELDORADO	5	0	5	78	6%
1990	CADI	FLEETWOOD	11	0	11	122	9%
1990	CADI	SEVILLE	7	0	7	160	4%
1990	CHEV	ASTRO VAN	13	0	13	368	4%
1990	CHEV	BERETTA	23	1	24	280	9%
1990	CHEV	BLAZER	10	8	18	249	7%
1990	CHEV	C10	1	0	1	1	100%
1990	CHEV	C1500	30	4	34	754	5%
1990	CHEV	C2500	4	2	6	48	13%
1990	CHEV	CAMARO	8	0	8	134	6%
1990	CHEV	CAPRICE	11	5	16	278	6%
1990	CHEV	CAVALIER	75	34	109	1099	10%
1990	CHEV	CELEBRITY	5	0	5	198	3%
1990	CHEV	CORSICA	35	13	48	639	8%
1990	CHEV	CORVETTE	3	0	3	121	2%
1990	CHEV	G20	10	0	10	205	5%
1990	CHEV	K1500	17	1	18	394	5%
1990	CHEV	K2500	2	0	2	45	4%
1990	CHEV	LUMINA	86	8	94	1197	8%
1990	CHEV	S10	6	2	8	244	3%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1990	CHEV	SUBURBAN	11	0	11	238	5%
1990	CHRY	IMPERIAL	5	0	5	63	8%
1990	CHRY	LEBARON	13	0	13	342	4%
1990	CHRY	NEW YORKER	8	0	8	247	3%
1990	CHRY	T-C BY MASERATI	1	0	1	15	7%
1990	CHRY	TOWN & COUNTRY	1	0	1	11	9%
1990	DODG	B250	5	0	5	107	5%
1990	DODG	CARAVAN	32	0	32	880	4%
1990	DODG	D-150	10	0	10	214	5%
1990	DODG	D-250	1	0	1	15	7%
1990	DODG	DAKOTA	10	2	12	312	4%
1990	DODG	DAYTONA	2	0	2	127	2%
1990	DODG	DYNASTY	11	0	11	480	2%
1990	DODG	OMNI	2	0	2	68	3%
1990	DODG	SHADOW	9	0	9	221	4%
1990	DODG	SPIRIT	7	0	7	305	2%
1990	DODG	W-100	1	0	1	1	100%
1990	EGIL	PREMIER	1	0	1	19	5%
1990	EGIL	SUMMIT	1	0	1	17	6%
1990	EGIL	TALON	2	0	2	66	3%
1990	FORD	AEROSTAR	11	4	15	422	4%
1990	FORD	BRONCO	8	0	8	186	4%
1990	FORD	BRONCO II	5	2	7	162	4%
1990	FORD	CLUB WAGON	2	0	2	37	5%
1990	FORD	CROWN VICTORIA	20	0	20	234	9%
1990	FORD	ECONOLINE	15	1	16	330	5%
1990	FORD	ESCORT	9	8	17	527	3%
1990	FORD	F150	54	24	78	1272	6%
1990	FORD	F250	5	1	6	50	12%
1990	FORD	FESTIVA	5	4	9	124	7%
1990	FORD	MUSTANG	12	0	12	454	3%
1990	FORD	PROBE	19	17	36	360	10%
1990	FORD	RANGER	27	15	42	829	5%
1990	FORD	TAURUS	34	21	55	933	6%
1990	FORD	TEMPO	27	23	50	829	6%
1990	FORD	THUNDERBIRD	13	7	20	216	9%
1990	GEO	METRO	2	0	2	82	2%
1990	GEO	PRIZM	45	21	66	686	10%
1990	GEO	STORM	5	0	5	141	4%
1990	GEO	TRACKER	2	0	2	102	2%
1990	GMC	C1500	1	0	1	1	100%
1990	GMC	G2500	1	0	1	7	14%
1990	GMC	JIMMY	5	1	6	85	7%
1990	GMC	K1500	1	0	1	1	100%
1990	GMC	R1500	6	1	7	60	12%
1990	GMC	S15	2	1	3	72	4%
1990	GMC	SAFARI	17	0	17	336	5%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1990	GMC	SIERRA	18	10	28	545	5%
1990	GMC	VANDURA	29	0	29	597	5%
1990	HOND	ACCORD	182	54	236	1409	17%
1990	HOND	CIVIC	23	21	44	769	6%
1990	HOND	PRELUDE	3	2	5	97	5%
1990	HYUN	EXCEL	2	0	2	38	5%
1990	HYUN	SONATA	1	0	1	18	6%
1990	INFI	M30	5	0	5	32	16%
1990	INFI	Q45	6	1	7	37	19%
1990	ISU	AMIGO	0	1	1	17	6%
1990	ISU	CAB	1	0	1	21	5%
1990	ISU	IMPULSE	1	1	2	9	22%
1990	ISU	TROOPER	2	0	2	75	3%
1990	JAGU	VDP	0	1	1	12	8%
1990	JAGU	XJ6	2	7	9	51	18%
1990	JAGU	XJS	1	0	1	20	5%
1990	JEEP	CHEROKEE	13	17	30	437	7%
1990	JEEP	WAGONEER	1	0	1	40	3%
1990	JEEP	WRANGLER	2	0	2	148	1%
1990	LEXS	ES 250	17	0	17	89	19%
1990	LEXS	LS 400	28	9	37	174	21%
1990	LINC	CONTINENTAL	20	0	20	240	8%
1990	LINC	MARK VII	7	7	14	80	18%
1990	LINC	TOWN CAR	33	23	56	582	10%
1990	LNDR	RANGE ROVER	1	0	1	9	11%
1990	MAZD	323	5	1	6	68	9%
1990	MAZD	626	29	9	38	331	11%
1990	MAZD	929	5	2	7	48	15%
1990	MAZD	B2200	3	3	6	174	3%
1990	MAZD	B2600	3	0	3	65	5%
1990	MAZD	MPV WAGON	10	4	14	121	12%
1990	MAZD	MX5 MIATA	17	9	26	323	8%
1990	MAZD	MX6	8	6	14	121	12%
1990	MAZD	PROTEGE	5	3	8	157	5%
1990	MERC	COUGAR	10	23	33	267	12%
1990	MERC	GRAND MARQUIS	16	11	27	298	9%
1990	MERC	SABLE	15	12	27	277	10%
1990	MERC	TOPAZ	13	7	20	255	8%
1990	MERZ	190	3	2	5	31	16%
1990	MERZ	260	1	0	1	1	100%
1990	MERZ	300	13	1	14	100	14%
1990	MERZ	420	1	1	2	10	20%
1990	MERZ	560	0	1	1	13	8%
1990	MITS	ECLIPSE	7	2	9	116	8%
1990	MITS	GALANT	5	0	5	90	6%
1990	MITS	MIGHTY MAX	1	0	1	29	3%
1990	MITS	MIRAGE	2	0	2	70	3%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1990	MITS	MONTERO	1	0	1	33	3%
1990	NISS	240SX	14	0	14	163	9%
1990	NISS	300ZX	5	5	10	151	7%
1990	NISS	720	5	2	7	135	5%
1990	NISS	AXXESS	1	1	2	21	10%
1990	NISS	KING CAB	0	1	1	1	100%
1990	NISS	MAXIMA	38	15	53	355	15%
1990	NISS	PATHFINDER	4	1	5	47	11%
1990	NISS	SENTRA	7	4	11	194	6%
1990	NISS	STANZA	4	8	12	144	8%
1990	OLDS	98	39	3	42	276	15%
1990	OLDS	CUTLASS	79	17	96	1335	7%
1990	OLDS	DELTA 88	72	0	72	619	12%
1990	OLDS	SILHOUETTE	6	0	6	74	8%
1990	OLDS	TORONADO	8	0	8	57	14%
1990	OTHER	OTHER	1	0	1	9	11%
1990	PLYM	ACCLAIM	9	0	9	182	5%
1990	PLYM	ARROW	3	0	3	95	3%
1990	PLYM	HORIZON	3	0	3	62	5%
1990	PLYM	LASER	2	1	3	100	3%
1990	PLYM	SUNDANCE	3	0	3	129	2%
1990	PLYM	VOYAGER	26	0	26	566	5%
1990	PONT	6000	8	1	9	134	7%
1990	PONT	BONNEVILLE	50	5	55	299	18%
1990	PONT	FIREBIRD	3	0	3	93	3%
1990	PONT	GRAND AM	11	0	11	530	2%
1990	PONT	GRAND PRIX	21	0	21	314	7%
1990	PONT	LEMANS	0	1	1	45	2%
1990	PONT	SUNBIRD	10	0	10	303	3%
1990	PONT	TRANS SPORT	5	7	12	87	14%
1990	PORS	944	1	0	1	18	6%
1990	SAA	900	2	2	4	40	10%
1990	SAA	9000	0	1	1	11	9%
1990	SUBA	LEGACY	13	9	22	173	13%
1990	TOYT	4RUNNER	11	4	15	144	10%
1990	TOYT	CAMRY	111	50	161	1394	12%
1990	TOYT	CELICA	28	11	39	420	9%
1990	TOYT	COROLLA	72	36	108	1148	9%
1990	TOYT	CRESSIDA	6	0	6	24	25%
1990	TOYT	DELUXE	7	7	14	132	11%
1990	TOYT	SHORT BED	1	1	2	53	4%
1990	TOYT	SR5	1	2	3	23	13%
1990	TOYT	SUPRA	6	0	6	37	16%
1990	TOYT	TERCEL	9	0	9	251	4%
1990	VOLK	CABRIOLET	2	0	2	27	7%
1990	VOLK	FOX	2	1	3	35	9%
1990	VOLK	GOLF	1	0	1	17	6%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1990	VOLK	JETTA	3	1	4	51	8%
1990	VOLV	240	16	7	23	142	16%
1990	VOLV	740	27	12	39	260	15%
1990	VOLV	760	3	2	5	42	12%
1989	ALFA	MILANO	1	0	1	1	100%
1989	BMW	525I	1	0	1	7	14%
1989	BMW	735I	1	0	1	7	14%
1989	BUIC	CENTURY	3	0	3	118	3%
1989	BUIC	ELECTRA	3	0	3	95	3%
1989	BUIC	LESABRE	2	0	2	139	1%
1989	BUIC	REGAL	1	0	1	62	2%
1989	BUIC	RIVIERA	1	0	1	15	7%
1989	CHEV	BERETTA	1	0	1	170	1%
1989	CHEV	BLAZER	1	0	1	162	1%
1989	CHEV	C1500	2	0	2	182	1%
1989	CHEV	CAVALIER	1	0	1	317	0%
1989	CHEV	CELEBRITY	1	0	1	223	0%
1989	CHEV	CORSICA	1	0	1	195	1%
1989	CHEV	CORVETTE	1	0	1	31	3%
1989	DODG	ARIES	1	0	1	29	3%
1989	DODG	DAKOTA	1	0	1	129	1%
1989	DODG	SPIRIT	1	0	1	48	2%
1989	FORD	BRONCO	1	0	1	64	2%
1989	FORD	CLUB WAGON	1	0	1	16	6%
1989	FORD	CROWN VICTORIA	1	0	1	146	1%
1989	FORD	ECONOLINE	2	0	2	98	2%
1989	FORD	F150	2	0	2	385	1%
1989	FORD	TAURUS	2	0	2	239	1%
1989	FORD	TEMPO	1	0	1	188	1%
1989	GMC	S15	1	0	1	64	2%
1989	GMC	SAFARI	1	0	1	66	2%
1989	GMC	SIERRA	2	0	2	127	2%
1989	HOND	ACCORD	2	0	2	346	1%
1989	JAGU	XJ6	1	0	1	12	8%
1989	LINC	TOWN CAR	1	0	1	141	1%
1989	MAZD	929	1	0	1	28	4%
1989	MERC	GRAND MARQUIS	1	0	1	129	1%
1989	MERZ	560	0	1	1	12	8%
1989	NISS	240SX	1	0	1	50	2%
1989	OLDS	CUTLASS	7	0	7	460	2%
1989	OLDS	DELTA 88	5	1	6	210	3%
1989	PLYM	SUNDANCE	1	0	1	48	2%
1989	PONT	BONNEVILLE	1	0	1	113	1%
1989	SAA	900	1	0	1	21	5%
1989	TOYT	4RUNNER	1	0	1	17	6%
1989	TOYT	CAMRY	4	0	4	356	1%
1989	TOYT	COROLLA	2	1	3	220	1%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1989	TOYT	DELUXE	0	1	1	55	2%
1989	TOYT	VAN WAGON	0	1	1	4	25%
1989	VOLV	240	2	0	2	20	10%
1989	VOLV	740	2	0	2	51	4%
1988	ACUR	INTEGRA	2	1	3	92	3%
1988	ACUR	LEGEND	8	0	8	180	4%
1988	AMER	CHEROKEE	1	0	1	2	50%
1988	AUDI	5000	1	0	1	22	5%
1988	BMW	325I	11	1	12	82	15%
1988	BMW	528I	3	0	3	45	7%
1988	BMW	535I	5	0	5	22	23%
1988	BMW	635 CSI	1	0	1	9	11%
1988	BMW	735I	5	1	6	36	17%
1988	BMW	M5	1	0	1	6	17%
1988	BUIC	CENTURY	20	1	21	227	9%
1988	BUIC	ELECTRA	34	1	35	282	12%
1988	BUIC	LESABRE	31	0	31	324	10%
1988	BUIC	REATTA	1	1	2	19	11%
1988	BUIC	REGAL	18	0	18	267	7%
1988	BUIC	RIVIERA	4	0	4	16	25%
1988	BUIC	SKYLARK	1	0	1	110	1%
1988	CADI	BROUGHAM	3	0	3	148	2%
1988	CADI	DEVILLE	12	0	12	351	3%
1988	CADI	ELDORADO	7	0	7	87	8%
1988	CADI	FLEETWOOD	1	0	1	50	2%
1988	CADI	SEVILLE	6	0	6	74	8%
1988	CHEV	ASTRO VAN	6	0	6	302	2%
1988	CHEV	BERETTA	16	0	16	305	5%
1988	CHEV	BLAZER	11	0	11	327	3%
1988	CHEV	C1500	26	0	26	768	3%
1988	CHEV	C20	1	0	1	2	50%
1988	CHEV	C2500	1	0	1	78	1%
1988	CHEV	CAMARO	9	0	9	206	4%
1988	CHEV	CAPRICE	16	0	16	421	4%
1988	CHEV	CAVALIER	16	0	16	537	3%
1988	CHEV	CELEBRITY	41	0	41	794	5%
1988	CHEV	CORSICA	18	0	18	422	4%
1988	CHEV	CORVETTE	1	0	1	79	1%
1988	CHEV	G10	2	0	2	31	6%
1988	CHEV	G20	4	0	4	164	2%
1988	CHEV	K1500	7	1	8	279	3%
1988	CHEV	MONTE CARLO	3	0	3	83	4%
1988	CHEV	NOVA	9	5	14	273	5%
1988	CHEV	S10	22	4	26	677	4%
1988	CHEV	SUBURBAN	13	0	13	189	7%
1988	CHRY	FIFTH AVENUE	1	0	1	105	1%
1988	CHRY	LEBARON	5	1	6	248	2%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1988	CHRY	NEW YORKER	6	0	6	200	3%
1988	DODG	600	1	0	1	18	6%
1988	DODG	ARIES	7	0	7	271	3%
1988	DODG	B250	2	0	2	115	2%
1988	DODG	CARAVAN	13	0	13	392	3%
1988	DODG	COLT	1	0	1	16	6%
1988	DODG	D-150	4	0	4	73	5%
1988	DODG	DAKOTA	7	0	7	278	3%
1988	DODG	DAYTONA	1	0	1	68	1%
1988	DODG	DYNASTY	5	0	5	159	3%
1988	DODG	MINI RAM	1	0	1	32	3%
1988	DODG	OMNI	7	3	10	117	9%
1988	DODG	W-100	1	0	1	41	2%
1988	DODG	W-150	1	0	1	29	3%
1988	FORD	AEROSTAR	3	0	3	205	1%
1988	FORD	BRONCO	6	2	8	118	7%
1988	FORD	BRONCO II	9	0	9	230	4%
1988	FORD	CROWN VICTORIA	7	0	7	367	2%
1988	FORD	ECONOLINE	16	2	18	275	7%
1988	FORD	ESCORT	3	0	3	566	1%
1988	FORD	F150	20	0	20	937	2%
1988	FORD	F250	4	0	4	101	4%
1988	FORD	MUSTANG	12	0	12	403	3%
1988	FORD	RANGER	6	0	6	671	1%
1988	FORD	TAURUS	12	0	12	631	2%
1988	FORD	TEMPO	6	17	23	356	6%
1988	FORD	THUNDERBIRD	11	0	11	293	4%
1988	GMC	C1500	7	1	8	310	3%
1988	GMC	G2500	1	0	1	7	14%
1988	GMC	JIMMY	2	0	2	179	1%
1988	GMC	K1500	10	0	10	133	8%
1988	GMC	R1500	1	0	1	47	2%
1988	GMC	S15	7	0	7	185	4%
1988	GMC	SAFARI	7	0	7	168	4%
1988	GMC	SIERRA	1	0	1	3	33%
1988	GMC	SONOMA	1	0	1	1	100%
1988	GMC	V1500	1	0	1	25	4%
1988	GMC	VANDURA	14	9	23	358	6%
1988	HOND	ACCORD	49	31	80	857	9%
1988	HOND	CIVIC	7	6	13	400	3%
1988	HOND	PRELUDE	4	0	4	119	3%
1988	ISU	I-MARK	1	0	1	2	50%
1988	JAGU	XJ6	6	1	7	42	17%
1988	JEEP	CHEROKEE	3	3	6	281	2%
1988	JEEP	COMANCHE	1	0	1	65	2%
1988	JEEP	WAGONEER	2	0	2	65	3%
1988	LINC	CONTINENTAL	3	0	3	31	10%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1988	LINC	MARK VII	5	0	5	68	7%
1988	LINC	TOWN CAR	15	0	15	651	2%
1988	LNDR	RANGE ROVER	1	0	1	8	13%
1988	MAZD	323	8	1	9	213	4%
1988	MAZD	626	19	9	28	246	11%
1988	MAZD	929	5	0	5	49	10%
1988	MAZD	B2200	1	0	1	216	0%
1988	MAZD	MX6	2	0	2	49	4%
1988	MAZD	MX-6	3	3	6	64	9%
1988	MAZD	RX7	2	0	2	91	2%
1988	MERC	COLONY PARK	2	1	3	37	8%
1988	MERC	COUGAR	19	4	23	396	6%
1988	MERC	GRAND MARQUIS	19	10	29	391	7%
1988	MERC	SABLE	5	0	5	178	3%
1988	MERC	TOPAZ	0	1	1	85	1%
1988	MERC	TRACER	2	0	2	114	2%
1988	MERK	MERKUR XR4TI	1	0	1	9	11%
1988	MERK	SCORPIO	1	0	1	24	4%
1988	MERZ	190	1	0	1	40	3%
1988	MERZ	300	9	0	9	70	13%
1988	MERZ	420	1	0	1	20	5%
1988	MERZ	560	5	1	6	75	8%
1988	MITS	PRECIS	1	0	1	6	17%
1988	NISS	300ZX	3	0	3	54	6%
1988	NISS	720	0	2	2	64	3%
1988	NISS	MAXIMA	8	0	8	122	7%
1988	NISS	PULSAR	1	0	1	28	4%
1988	NISS	SENTRA	4	0	4	137	3%
1988	NISS	STANZA	2	0	2	47	4%
1988	OLDS	98	24	0	24	240	10%
1988	OLDS	CUTLASS	48	8	56	1199	5%
1988	OLDS	DELTA 88	38	0	38	502	8%
1988	OLDS	TORONADO	1	0	1	50	2%
1988	OTHER	OTHER	1	0	1	17	6%
1988	PLYM	CARAVELLE	2	0	2	29	7%
1988	PLYM	COLT	1	0	1	15	7%
1988	PLYM	HORIZON	1	0	1	119	1%
1988	PLYM	RELIANT	9	0	9	333	3%
1988	PLYM	SUNDANCE	3	0	3	92	3%
1988	PLYM	VOYAGER	12	0	12	299	4%
1988	PONT	6000	2	0	2	138	1%
1988	PONT	BONNEVILLE	24	0	24	216	11%
1988	PONT	FIREBIRD	1	1	2	132	2%
1988	PONT	GRAND AM	8	0	8	276	3%
1988	PONT	GRAND PRIX	7	0	7	117	6%
1988	PONT	LEMANS	3	0	3	36	8%
1988	PONT	SUNBIRD	3	0	3	102	3%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1988	PORS	911	1	0	1	31	3%
1988	PORS	944	3	0	3	25	12%
1988	SAA	900	10	2	12	52	23%
1988	SAA	9000	1	0	1	10	10%
1988	SUBA	GL	2	0	2	41	5%
1988	SUBA	XT	1	0	1	3	33%
1988	TOYT	1/2 TON	4	5	9	121	7%
1988	TOYT	4RUNNER	5	5	10	61	16%
1988	TOYT	CAMRY	57	23	80	920	9%
1988	TOYT	CELICA	9	4	13	218	6%
1988	TOYT	COROLLA	16	23	39	638	6%
1988	TOYT	CRESSIDA	1	0	1	19	5%
1988	TOYT	LAND CRUISER	1	0	1	15	7%
1988	TOYT	LONG BED 1 TON	1	0	1	1	100%
1988	TOYT	MR2	0	2	2	27	7%
1988	TOYT	SHORT BED	2	5	7	68	10%
1988	TOYT	SR5	2	0	2	26	8%
1988	TOYT	SUPRA	3	0	3	46	7%
1988	TOYT	TERCEL	8	0	8	179	4%
1988	TOYT	VAN WAGON	0	2	2	17	12%
1988	VOLK	CABRIOLET	1	1	2	32	6%
1988	VOLK	FOX	1	0	1	31	3%
1988	VOLK	GOLF	1	0	1	15	7%
1988	VOLK	JETTA	1	0	1	51	2%
1988	VOLV	240	3	0	3	134	2%
1988	VOLV	740	16	0	16	166	10%
1988	VOLV	760	3	0	3	21	14%
1988	VOLV	780	1	0	1	3	33%
1987	BMW	325I	1	0	1	44	2%
1987	BUIC	LESABRE	1	0	1	107	1%
1987	BUIC	SKYLARK	1	0	1	15	7%
1987	CHEV	BLAZER	1	0	1	127	1%
1987	CHEV	CELEBRITY	1	0	1	202	0%
1987	CHEV	G30	1	0	1	3	33%
1987	CHEV	MONTE CARLO	1	0	1	69	1%
1987	CHRY	LEBARON	1	0	1	85	1%
1987	FORD	CROWN VICTORIA	3	0	3	96	3%
1987	FORD	ECONOLINE	2	0	2	75	3%
1987	FORD	F150	1	0	1	259	0%
1987	FORD	RANGER	1	0	1	154	1%
1987	FORD	TAURUS	1	0	1	143	1%
1987	HOND	ACCORD	1	0	1	197	1%
1987	LINC	CONTINENTAL	1	0	1	4	25%
1987	MERC	GRAND MARQUIS	1	0	1	132	1%
1987	MERZ	420	1	0	1	15	7%
1987	NISS	720	1	0	1	21	5%
1987	OLDS	CUTLASS	3	0	3	300	1%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1987	OLDS	DELTA 88	1	0	1	91	1%
1987	SUBA	GL	1	0	1	15	7%
1987	TOYT	4RUNNER	1	0	1	16	6%
1987	TOYT	CAMRY	1	0	1	192	1%
1986	ACUR	INTEGRA	1	0	1	26	4%
1986	ACUR	LEGEND	1	0	1	32	3%
1986	ALFA	SPIDER	1	0	1	9	11%
1986	AMER	ALLIANCE	1	0	1	6	17%
1986	AMER	CHEROKEE	2	0	2	117	2%
1986	AUDI	5000	2	0	2	35	6%
1986	BMW	325I	3	2	5	91	5%
1986	BMW	528I	6	0	6	35	17%
1986	BUIC	CENTURY	5	0	5	296	2%
1986	BUIC	ELECTRA	10	0	10	195	5%
1986	BUIC	LESABRE	14	0	14	178	8%
1986	BUIC	REGAL	5	0	5	146	3%
1986	BUIC	SKYHAWK	1	0	1	65	2%
1986	BUIC	SKYLARK	1	0	1	36	3%
1986	BUIC	SOMERSET	4	0	4	47	9%
1986	CADI	DEVILLE	10	0	10	254	4%
1986	CADI	FLEETWOOD	2	0	2	127	2%
1986	CHEV	ASTRO VAN	5	0	5	214	2%
1986	CHEV	BLAZER	7	0	7	242	3%
1986	CHEV	C10	14	0	14	466	3%
1986	CHEV	CAMARO	6	0	6	233	3%
1986	CHEV	CAPRICE	16	0	16	457	4%
1986	CHEV	CAVALIER	9	0	9	290	3%
1986	CHEV	CELEBRITY	23	0	23	501	5%
1986	CHEV	CORVETTE	7	0	7	138	5%
1986	CHEV	EL CAMINO	2	0	2	48	4%
1986	CHEV	G20	5	0	5	164	3%
1986	CHEV	MONTE CARLO	8	0	8	257	3%
1986	CHEV	NOVA	6	0	6	176	3%
1986	CHEV	S10	4	1	5	195	3%
1986	CHEV	SUBURBAN	1	0	1	93	1%
1986	CHRY	FIFTH AVENUE	3	0	3	138	2%
1986	CHRY	LEBARON	1	0	1	207	0%
1986	CHRY	NEW YORKER	1	0	1	51	2%
1986	DODG	ARIES	1	0	1	123	1%
1986	DODG	B250	2	0	2	114	2%
1986	DODG	CARAVAN	1	0	1	90	1%
1986	DODG	D-100	1	0	1	88	1%
1986	DODG	D-150	1	0	1	184	1%
1986	DODG	D-250	1	0	1	23	4%
1986	DODG	RAMCHARGER	1	0	1	39	3%
1986	FORD	AEROSTAR	1	0	1	76	1%
1986	FORD	BRONCO	3	0	3	134	2%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1986	FORD	BRONCO II	2	0	2	158	1%
1986	FORD	ECONOLINE	2	0	2	162	1%
1986	FORD	ESCORT	2	0	2	252	1%
1986	FORD	F150	9	0	9	984	1%
1986	FORD	F250	1	0	1	72	1%
1986	FORD	LTD	11	0	11	351	3%
1986	FORD	MUSTANG	1	0	1	262	0%
1986	FORD	RANGER	4	0	4	353	1%
1986	FORD	TAURUS	1	0	1	154	1%
1986	FORD	TEMPO	4	0	4	179	2%
1986	FORD	THUNDERBIRD	1	0	1	121	1%
1986	GMC	C1500	2	0	2	195	1%
1986	GMC	CABALLERO	1	0	1	9	11%
1986	GMC	G2500	2	0	2	12	17%
1986	GMC	JIMMY	1	0	1	58	2%
1986	GMC	S15	3	1	4	77	5%
1986	GMC	SAFARI	2	0	2	109	2%
1986	GMC	VANDURA	1	0	1	234	0%
1986	HOND	ACCORD	18	7	25	378	7%
1986	HOND	CIVIC	1	1	2	206	1%
1986	LINC	MARK VII	1	0	1	26	4%
1986	LINC	TOWN CAR	4	0	4	300	1%
1986	MAZD	626	1	2	3	71	4%
1986	MAZD	B2000	2	0	2	284	1%
1986	MERC	COUGAR	4	0	4	195	2%
1986	MERC	GRAND MARQUIS	8	0	8	376	2%
1986	MERC	SABLE	2	0	2	72	3%
1986	MERZ	190	2	0	2	34	6%
1986	MERZ	300	6	0	6	67	9%
1986	MERZ	420	7	0	7	42	17%
1986	MERZ	560	4	0	4	58	7%
1986	NISS	200SX	3	0	3	20	15%
1986	NISS	300ZX	4	0	4	87	5%
1986	NISS	720	5	0	5	240	2%
1986	NISS	MAXIMA	2	0	2	48	4%
1986	NISS	STANZA	2	0	2	25	8%
1986	OLDS	98	11	0	11	178	6%
1986	OLDS	CALAIS	1	1	2	52	4%
1986	OLDS	CUTLASS	22	4	26	1013	3%
1986	OLDS	DELTA 88	19	0	19	353	5%
1986	OLDS	TORONADO	3	0	3	14	21%
1986	PLYM	CARAVELLE	1	0	1	34	3%
1986	PLYM	RELIANT	1	0	1	115	1%
1986	PLYM	VOYAGER	2	0	2	85	2%
1986	PONT	6000	6	0	6	144	4%
1986	PONT	BONNEVILLE	4	0	4	65	6%
1986	PONT	FIERO	1	0	1	80	1%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1986	PONT	FIREBIRD	1	0	1	138	1%
1986	PONT	GRAND AM	3	0	3	78	4%
1986	PONT	GRAND PRIX	1	0	1	70	1%
1986	PONT	PARISIENNE	4	0	4	156	3%
1986	PORS	911	1	1	2	38	5%
1986	PORS	944	7	0	7	48	15%
1986	SAA	900	3	1	4	47	9%
1986	SUBA	GL	0	1	1	28	4%
1986	TOYT	4RUNNER	6	0	6	66	9%
1986	TOYT	CAMRY	23	11	34	375	9%
1986	TOYT	CELICA	9	5	14	126	11%
1986	TOYT	COROLLA	3	1	4	282	1%
1986	TOYT	CRESSIDA	4	0	4	62	6%
1986	TOYT	MR2	3	0	3	82	4%
1986	TOYT	SUPRA	4	0	4	59	7%
1986	TOYT	TERCEL	1	0	1	104	1%
1986	TOYT	VAN WAGON	2	2	4	48	8%
1986	VOLK	CABRIOLET	1	0	1	14	7%
1986	VOLK	GOLF	2	0	2	38	5%
1986	VOLK	JETTA	1	0	1	60	2%
1986	VOLK	VANAGON	1	0	1	7	14%
1986	VOLV	240	5	0	5	162	3%
1986	VOLV	740	8	0	8	146	5%
1986	VOLV	760	1	0	1	21	5%
1985	BMW	318I	1	0	1	6	17%
1985	BUIC	RIVIERA	1	0	1	39	3%
1985	CHEV	CAPRICE	1	0	1	105	1%
1985	GMC	VANDURA	1	0	1	38	3%
1985	LINC	CONTINENTAL	1	0	1	17	6%
1985	NISS	MAXIMA	1	0	1	27	4%
1985	OLDS	CUTLASS	1	0	1	224	0%
1985	OLDS	DELTA 88	1	0	1	139	1%
1985	VOLV	240	1	0	1	36	3%
1984	AMER	WAGONEER	1	0	1	21	5%
1984	AUDI	5000	2	0	2	13	15%
1984	BMW	318I	3	0	3	42	7%
1984	BMW	528I	1	0	1	17	6%
1984	BMW	533I	1	0	1	8	13%
1984	BMW	633 CSI	1	0	1	3	33%
1984	BUIC	ELECTRA	1	0	1	119	1%
1984	BUIC	LESABRE	5	0	5	241	2%
1984	BUIC	REGAL	2	0	2	151	1%
1984	BUIC	RIVIERA	1	0	1	97	1%
1984	BUIC	SKYHAWK	1	0	1	46	2%
1984	BUIC	SKYLARK	1	0	1	77	1%
1984	CADI	DEVILLE	2	0	2	128	2%
1984	CHEV	BLAZER	2	0	2	129	2%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1984	CHEV	C10	6	0	6	285	2%
1984	CHEV	CAMARO	3	0	3	151	2%
1984	CHEV	CAPRICE	10	0	10	351	3%
1984	CHEV	CAVALIER	2	0	2	149	1%
1984	CHEV	CELEBRITY	2	0	2	177	1%
1984	CHEV	CHEVETTE	1	0	1	33	3%
1984	CHEV	CITATION	2	0	2	43	5%
1984	CHEV	CORVETTE	3	0	3	141	2%
1984	CHEV	EL CAMINO	1	0	1	51	2%
1984	CHEV	G20	2	0	2	119	2%
1984	CHEV	K10	1	0	1	96	1%
1984	CHEV	MONTE CARLO	3	0	3	162	2%
1984	CHEV	S10	1	0	1	143	1%
1984	CHRY	FIFTH AVENUE	2	0	2	79	3%
1984	CHRY	LEBARON	1	0	1	69	1%
1984	CHRY	NEW YORKER	1	0	1	19	5%
1984	DODG	B250	2	0	2	68	3%
1984	DODG	DIPLOMAT	1	0	1	23	4%
1984	FORD	BRONCO	1	0	1	63	2%
1984	FORD	BRONCO II	1	0	1	90	1%
1984	FORD	ECONOLINE	1	0	1	110	1%
1984	FORD	F150	4	0	4	441	1%
1984	FORD	LTD	4	0	4	275	1%
1984	FORD	MUSTANG	1	0	1	109	1%
1984	GMC	C1500	4	0	4	157	3%
1984	GMC	CABALLERO	1	0	1	22	5%
1984	GMC	JIMMY	1	0	1	31	3%
1984	GMC	VANDURA	2	0	2	187	1%
1984	HOND	CIVIC	1	0	1	46	2%
1984	LINC	TOWN CAR	3	0	3	119	3%
1984	MAZD	RX7	1	0	1	19	5%
1984	MERC	COUGAR	1	0	1	60	2%
1984	MERC	GRAND MARQUIS	9	0	9	347	3%
1984	MERC	TOPAZ	1	0	1	6	17%
1984	MERZ	380	1	0	1	51	2%
1984	MERZ	500	1	0	1	23	4%
1984	NISS	300ZX	1	0	1	1	100%
1984	OLDS	98	3	0	3	92	3%
1984	OLDS	CUTLASS	13	0	13	498	3%
1984	OLDS	DELTA 88	6	0	6	381	2%
1984	OLDS	TORONADO	1	0	1	71	1%
1984	PLYM	CARAVELLE	1	0	1	7	14%
1984	PLYM	HORIZON	1	0	1	14	7%
1984	PONT	FIERO	1	0	1	71	1%
1984	PONT	FIREBIRD	1	0	1	66	2%
1984	PONT	GRAND PRIX	1	0	1	46	2%
1984	PONT	PARISIENNE	2	0	2	71	3%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1984	PORS	911	1	0	1	21	5%
1984	PORS	944	2	0	2	46	4%
1984	SAA	900	1	0	1	9	11%
1984	SUBA	GL	1	0	1	16	6%
1984	TOYT	1/2 TON	1	0	1	32	3%
1984	TOYT	CAMRY	4	1	5	52	10%
1984	TOYT	CELICA	1	2	3	32	9%
1984	TOYT	COROLLA	1	2	3	119	3%
1984	TOYT	CRESSIDA	1	0	1	26	4%
1984	TOYT	SR5	1	0	1	36	3%
1984	TOYT	SUPRA	1	0	1	22	5%
1984	TOYT	VAN WAGON	1	0	1	12	8%
1984	VOLK	RABBIT	1	0	1	35	3%
1984	VOLK	SCIROCCO	0	1	1	5	20%
1984	VOLV	240	6	0	6	121	5%
1983	DATS	280 Z	1	0	1	11	9%
1983	PONT	2000	1	0	1	4	25%
1982	ALFA	GTV 6	1	0	1	1	100%
1982	AMER	SCRAMBLER	1	0	1	8	13%
1982	BMW	320I	1	0	1	12	8%
1982	BUIC	ELECTRA	1	0	1	40	3%
1982	BUIC	LESABRE	1	0	1	61	2%
1982	BUIC	REGAL	2	0	2	61	3%
1982	BUIC	RIVIERA	1	0	1	25	4%
1982	CHEV	C10	2	0	2	154	1%
1982	CHEV	C20	1	0	1	11	9%
1982	CHEV	CAPRICE	2	0	2	54	4%
1982	CHEV	CORVETTE	2	0	2	103	2%
1982	CHEV	G20	1	0	1	31	3%
1982	CHRY	NEW YORKER	1	0	1	31	3%
1982	DATS	280 Z	2	0	2	31	6%
1982	DODG	D-150	1	0	1	107	1%
1982	FORD	F100	2	0	2	84	2%
1982	FORD	F150	1	0	1	203	0%
1982	FORD	FAIRMONT	1	0	1	66	2%
1982	FORD	LTD	1	0	1	39	3%
1982	LINC	MARK VI	1	0	1	18	6%
1982	LINC	TOWN CAR	1	0	1	18	6%
1982	MERZ	380	4	0	4	33	12%
1982	OLDS	DELTA 88	3	0	3	106	3%
1982	OLDS	OMEGA	1	0	1	14	7%
1982	OTHER	OTHER	1	0	1	16	6%
1982	PORS	928	1	0	1	11	9%
1982	VOLV	240	1	0	1	43	2%
1981	BUIC	SKYLARK	1	0	1	9	11%
1980	BUIC	REGAL	1	0	1	36	3%
1980	CADI	DEVILLE	1	0	1	46	2%

Appendix A3
Vehicles RapidScreened

Year	Make	Model	RSD	Hybrid	Total Rapid Screen	Total Vehicles Tested	Rapid Screen %
1980	CHEV	C10	2	0	2	102	2%
1980	DATS	280 Z	1	0	1	11	9%
1980	FORD	F100	1	0	1	55	2%
1980	FORD	F150	1	0	1	96	1%
1980	PONT	SUNBIRD	1	0	1	9	11%
1980	VOLV	240	1	0	1	11	9%
1978	CHEV	C10	1	0	1	137	1%
1978	CHEV	CAMARO	1	0	1	31	3%
1978	FORD	LTD	1	0	1	59	2%
1978	GMC	SIERRA	1	0	1	43	2%
1978	PONT	FIREBIRD	1	0	1	49	2%
1977	MERZ	450	1	0	1	5	20%
1976	CHEV	CAPRICE	1	0	1	31	3%
1974	BUIC	CENTURY	1	0	1	3	33%

Appendix B – Emission Reductions

- **B1 – IM240 Tests**
  - **Station Based Tests**
  - **RapidScreen Audit Vehicles**
- **B2 – Enhanced Idle Tests**
  - **Station Based Tests**
  - **RapidScreen Audit Vehicles**
- **B3 – Basic Idle Tests**
  - **Station Based Tests**
  - **RapidScreen Audit Vehicles**
- **B4 – Summary**

Appendix B Notes and Assumptions

Unresolved remaining in the area – Vehicles that do not complete an inspection cycle by passing the inspection or obtaining a waiver are termed "unresolved". In Arizona and Colorado studies, some of these vehicles have been found continuing to operate in the I/M program area. In this report it has been assumed that one third of these vehicles continue to operate in the I/M area and two thirds are either scrapped or transfer out of the area.

Model Year/Type – Vehicles are grouped by model year and type. Type "P" are light duty passenger vehicles (LDGV) and type "T" are light duty trucks (LDGT). On pages showing results for Enhanced and Basic Idle tests, results for model year 1980 and older vehicles are included in the first section of the table along with the results for the 1981 model vehicles.

First Result – Last Result – The results of the first I/M test of the vehicle performed between January 2002 and December 2002 and the last I/M test of the vehicle performed between January 2002 and February 2003. The purpose of the earlier cutoff date for initial tests vs. retests is to limit the number of open repair and retest cycles.

Initial/Final HC/CO/NOx – Average tailpipe test emissions values. Tailpipe test results are in grams per mile for IM240 tests and in ppm HC and percent CO for idle tests.

The pass/fail/waiver result is the result for the whole I/M result including the gas cap pressure test. In instances where a vehicle initially fails the gas cap pressure test but is not a high tailpipe emitter, the tailpipe emissions recorded on the final test can be higher than the tailpipe emissions recorded on the initial test. Minor variations in test results on the same vehicle are normal and not significant provided the variation is small compared to the test standard.

IM240 Test Emissions Reductions

Unresolved fails remaining in area 33%

Model Year/Type	First Result	Last Result	Vehicles		Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	Reduction % HC	Reduction % CO	Reduction % NOX
1981	Pass	-	124		0.48	7.00	1.89	0.48	7.00	1.89	0.0%	0.0%	0.0%
P	Fail	Pass	68	18.5%	2.57	43.80	2.43	0.45	7.73	1.72	82.4%	82.3%	29.1%
	Fail	Unresolv.	104	28.3%	4.66	67.30	2.56	1.55	22.59	0.83	66.8%	66.4%	67.7%
	Fail	Waiver	72	19.6%	3.90	58.42	2.76	3.57	56.95	2.27	8.5%	2.5%	17.8%
Total	Fail%		368	66.3%	2.72	40.90	2.35	1.38	21.31	1.63	49.2%	47.9%	30.5%
1982	Pass	-	689		0.48	6.53	1.84	0.48	6.53	1.84	0.0%	0.0%	0.0%
P	Fail	Pass	250	16.3%	2.18	29.03	2.93	0.47	5.92	1.73	78.4%	79.6%	41.0%
	Fail	Unresolv.	245	15.9%	3.43	48.46	2.79	1.13	15.76	0.93	67.0%	67.5%	66.7%
	Fail	Waiver	354	23.0%	3.46	55.56	2.85	3.12	49.73	2.62	9.8%	10.5%	8.0%
Total	Fail%		1,538	55.2%	1.91	28.15	2.40	1.19	17.84	1.85	37.8%	36.6%	22.7%
1983	Pass	-	314		0.51	5.64	1.84	0.51	5.64	1.84	0.0%	0.0%	0.0%
P	Fail	Pass	128	15.8%	2.17	28.49	2.65	0.46	5.24	1.60	78.6%	81.6%	39.5%
	Fail	Unresolv.	201	24.9%	3.66	57.10	2.73	1.20	18.98	0.91	67.1%	66.8%	66.6%
	Fail	Waiver	165	20.4%	3.61	54.75	2.70	3.16	43.68	2.77	12.5%	20.2%	-2.6%
Total	Fail%		808	61.1%	2.19	32.09	2.36	1.22	16.66	1.76	44.4%	48.1%	25.5%
1984	Pass	-	2,550		0.48	5.26	1.78	0.48	5.26	1.78	0.0%	0.0%	0.0%
P	Fail	Pass	882	17.2%	1.77	24.26	2.72	0.45	4.54	1.66	74.8%	81.3%	39.1%
	Fail	Unresolv.	659	12.9%	3.27	47.87	2.70	1.06	15.55	0.90	67.7%	67.5%	66.6%
	Fail	Waiver	1,026	20.1%	3.12	47.99	2.98	2.83	44.36	2.74	9.3%	7.6%	8.0%
Total	Fail%		5,117	50.2%	1.59	22.59	2.30	1.02	14.30	1.84	35.9%	36.7%	20.1%
1985	Pass	-	926		0.53	5.42	1.72	0.53	5.42	1.72	0.0%	0.0%	0.0%
P	Fail	Pass	348	16.6%	1.88	25.31	2.51	0.47	4.71	1.58	75.1%	81.4%	37.0%
	Fail	Unresolv.	451	21.5%	3.48	48.40	2.66	1.15	15.98	0.89	67.1%	67.0%	66.4%
	Fail	Waiver	377	17.9%	3.36	44.02	2.99	3.12	39.66	2.80	6.9%	9.9%	6.4%
Total	Fail%		2,102	55.9%	1.89	24.86	2.28	1.12	13.71	1.71	41.0%	44.9%	24.9%
1986	Pass	-	5,865		0.46	4.54	1.56	0.46	4.54	1.56	0.0%	0.0%	0.0%
P	Fail	Pass	1,626	16.1%	1.81	22.05	2.74	0.43	4.04	1.55	76.0%	81.7%	43.3%
	Fail	Unresolv.	1,016	10.1%	3.38	33.86	2.92	1.12	11.24	0.96	67.0%	66.8%	66.9%
	Fail	Waiver	1,564	15.5%	2.99	36.02	3.01	2.70	32.32	2.80	9.4%	10.3%	6.8%
Total	Fail%		10,071	41.8%	1.37	15.22	2.11	0.87	9.45	1.69	36.1%	37.9%	19.9%
1987	Pass	-	2,189		0.51	4.89	1.67	0.51	4.89	1.67	0.0%	0.0%	0.0%
P	Fail	Pass	553	14.9%	1.85	23.86	2.74	0.46	4.27	1.82	75.2%	82.1%	33.6%
	Fail	Unresolv.	539	14.5%	3.46	35.39	2.89	1.08	11.37	0.97	68.9%	67.9%	66.4%
	Fail	Waiver	427	11.5%	3.09	35.42	2.88	2.83	32.78	2.76	8.5%	7.5%	4.3%
Total	Fail%		3,708	41.0%	1.43	15.67	2.15	0.85	8.95	1.72	40.8%	42.9%	20.0%
1988	Pass	-	11,792		0.45	4.58	1.44	0.45	4.58	1.44	0.0%	0.0%	0.0%
P	Fail	Pass	2,362	14.1%	1.78	20.18	2.64	0.46	4.36	1.52	74.1%	78.4%	42.5%
	Fail	Unresolv.	1,065	6.3%	3.25	30.50	2.86	1.05	10.03	0.94	67.8%	67.1%	67.1%
	Fail	Waiver	1,580	9.4%	3.01	28.98	3.06	2.70	25.96	2.80	10.4%	10.4%	8.5%
Total	Fail%		16,799	29.8%	1.06	10.71	1.85	0.70	6.91	1.55	33.5%	35.5%	16.4%
1989	Pass	-	4,288		0.48	4.93	1.46	0.48	4.93	1.46	0.0%	0.0%	0.0%
P	Fail	Pass	771	12.6%	1.78	20.40	2.41	0.48	4.86	1.57	72.9%	76.2%	34.7%
	Fail	Unresolv.	615	10.0%	3.03	26.87	2.99	0.98	8.54	0.99	67.5%	68.2%	67.0%
	Fail	Waiver	451	7.4%	3.20	31.39	3.05	2.76	28.37	2.75	13.8%	9.6%	9.6%
Total	Fail%		6,125	30.0%	1.10	11.03	1.85	0.70	7.01	1.52	36.5%	36.5%	17.7%
1990	Pass	-	18,656		0.45	4.83	1.48	0.45	4.83	1.48	0.0%	0.0%	0.0%
P	Fail	Pass	2,720	11.3%	1.77	22.53	2.61	0.46	4.79	1.48	74.2%	78.8%	43.3%
	Fail	Unresolv.	1,048	4.3%	2.77	27.61	3.08	0.92	9.14	1.03	66.8%	66.9%	66.7%
	Fail	Waiver	1,686	7.0%	2.91	31.08	3.24	2.52	25.83	3.05	13.4%	16.9%	5.8%
Total	Fail%		24,110	22.6%	0.87	9.65	1.80	0.62	6.48	1.57	29.3%	32.9%	12.7%
1991	Pass	-	6,104		0.43	4.88	1.44	0.43	4.88	1.44	0.0%	0.0%	0.0%
P	Fail	Pass	882	11.1%	1.71	21.88	2.48	0.44	4.75	1.49	74.0%	78.3%	39.7%
	Fail	Unresolv.	470	5.9%	2.61	25.98	2.91	0.88	8.36	0.98	66.3%	67.8%	66.4%
	Fail	Waiver	465	5.9%	2.87	31.17	2.85	2.52	26.15	2.76	12.2%	16.1%	3.2%
Total	Fail%		7,921	22.9%	0.85	9.57	1.73	0.58	6.32	1.50	31.2%	33.9%	13.3%
1992	Pass	-	25,372		0.42	4.72	1.41	0.42	4.72	1.41	0.0%	0.0%	0.0%
P	Fail	Pass	2,662	8.9%	1.68	26.36	2.14	0.44	4.79	1.44	74.1%	81.8%	32.6%
	Fail	Unresolv.	745	2.5%	2.84	30.67	2.85	0.94	9.68	0.95	66.7%	68.4%	66.6%
	Fail	Waiver	1,244	4.1%	2.81	27.35	2.82	2.47	24.41	2.68	11.9%	10.7%	5.0%
Total	Fail%		30,023	15.5%	0.69	8.22	1.57	0.52	5.66	1.45	24.9%	31.1%	7.3%

IM240 Test Emissions Reductions

Unresolved fails remaining in area 33%

Model Year/Type	First Result	Last Result	Vehicles		Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	Reduction % HC	Reduction % CO	Reduction % NOX
1993	Pass	-	7,692		0.39	4.43	1.30	0.39	4.43	1.30	0.0%	0.0%	0.0%
P	Fail	Pass	682	7.7%	1.73	23.22	2.00	0.46	4.92	1.38	73.6%	78.8%	31.1%
	Fail	Unresolv.	259	2.9%	2.69	28.91	2.67	0.81	8.71	0.92	69.8%	69.9%	65.7%
	Fail	Waiver	237	2.7%	3.07	31.78	2.71	2.45	28.59	2.68	20.2%	10.0%	1.3%
Total	Fail%		8,870	13.3%	0.64	7.32	1.43	0.47	5.24	1.33	26.6%	28.4%	7.0%
1994	Pass	-	32,226		0.34	3.61	1.10	0.34	3.61	1.10	0.0%	0.0%	0.0%
P	Fail	Pass	1,800	5.1%	1.45	17.34	1.86	0.41	4.16	1.26	71.4%	76.0%	32.2%
	Fail	Unresolv.	388	1.1%	2.69	26.13	2.51	0.89	8.34	0.85	66.7%	68.1%	66.3%
	Fail	Waiver	579	1.7%	2.93	23.68	2.74	2.33	20.97	2.57	20.6%	11.5%	6.1%
Total	Fail%		34,993	7.9%	0.47	4.90	1.18	0.39	3.98	1.13	17.7%	18.8%	4.4%
1995	Pass	-	9,603		0.29	3.06	0.89	0.29	3.06	0.89	0.0%	0.0%	0.0%
P	Fail	Pass	436	4.3%	1.53	18.20	1.50	0.35	3.36	1.05	76.9%	81.5%	30.4%
	Fail	Unresolv.	115	1.1%	2.74	23.83	2.08	1.01	7.65	0.71	63.2%	67.9%	66.2%
	Fail	Waiver	85	0.8%	3.79	34.11	2.30	2.76	27.81	2.40	27.0%	18.5%	-4.2%
Total	Fail%		10,239	6.2%	0.40	4.20	0.94	0.32	3.33	0.91	19.6%	20.6%	3.6%
1996	Pass	-	32,652		0.20	2.23	0.68	0.20	2.23	0.68	0.0%	0.0%	0.0%
P	Fail	Pass	1,128	3.3%	0.80	13.26	1.19	0.23	2.84	0.81	71.7%	78.6%	31.4%
	Fail	Unresolv.	191	0.6%	1.69	23.11	1.85	0.58	7.79	0.62	65.9%	66.3%	66.7%
	Fail	Waiver	214	0.6%	1.55	20.14	2.19	1.52	19.90	2.13	1.8%	1.2%	2.7%
Total	Fail%		34,185	4.5%	0.24	2.82	0.71	0.21	2.39	0.69	10.7%	15.3%	2.8%
1997	Pass	-	8,180		0.17	2.01	0.61	0.17	2.01	0.61	0.0%	0.0%	0.0%
P	Fail	Pass	230	2.7%	0.78	11.80	1.16	0.22	2.64	0.79	71.7%	77.6%	32.0%
	Fail	Unresolv.	33	0.4%	3.15	32.33	1.98	1.04	10.64	0.68	67.1%	67.1%	65.7%
	Fail	Waiver	12	0.1%	1.63	10.55	2.51	1.36	9.76	2.35	16.2%	7.5%	6.3%
Total	Fail%		8,455	3.3%	0.20	2.41	0.63	0.18	2.07	0.62	11.8%	13.9%	2.4%
1998	Pass	-	35,064		0.13	1.73	0.46	0.13	1.73	0.46	0.0%	0.0%	0.0%
P	Fail	Pass	687	1.9%	0.41	8.51	0.75	0.14	2.39	0.54	65.1%	71.9%	28.0%
	Fail	Unresolv.	50	0.1%	1.32	25.52	1.66	0.43	7.96	0.55	67.3%	68.8%	66.6%
	Fail	Waiver	23	0.1%	3.68	23.05	1.94	1.14	12.32	1.97	69.1%	46.6%	-1.3%
Total	Fail%		35,824	2.1%	0.14	1.90	0.47	0.13	1.75	0.47	5.6%	7.8%	1.2%
1999	Pass	-	12,520		0.10	1.35	0.38	0.10	1.35	0.38	0.0%	0.0%	0.0%
P	Fail	Pass	215	1.7%	0.23	4.79	0.55	0.10	1.67	0.44	57.7%	65.2%	20.6%
	Fail	Unresolv.	21	0.2%	2.53	16.78	0.76	0.83	5.53	0.28	67.1%	67.0%	62.9%
	Fail	Waiver	4	0.0%	13.12	170.48	2.48	9.46	123.15	1.77	27.9%	27.8%	28.6%
Total	Fail%		12,760	1.9%	0.11	1.48	0.38	0.10	1.40	0.38	5.6%	5.8%	0.8%
2000	Pass	-	43,869		0.07	0.90	0.29	0.07	0.90	0.29	0.0%	0.0%	0.0%
P	Fail	Pass	691	5.5%	0.25	5.03	0.46	0.07	1.13	0.32	72.1%	77.5%	29.4%
	Fail	Unresolv.	20	0.2%	0.93	15.26	1.03	0.32	5.24	0.30	65.8%	65.7%	71.2%
	Fail	Waiver	2	0.0%	0.63	12.48	1.74	0.79	18.67	1.92	-26.8%	-49.6%	-10.7%
Total	Fail%		44,582	5.7%	0.07	0.97	0.29	0.07	0.90	0.29	4.4%	6.7%	0.8%
2001	Pass	-	12,507		0.03	0.51	0.17	0.03	0.51	0.17	0.0%	0.0%	0.0%
P	Fail	Pass	100	2.3%	0.13	3.37	0.28	0.04	0.59	0.19	67.3%	82.5%	33.5%
	Fail	Unresolv.	4	0.1%	0.16	4.00	0.24	0.07	1.81	0.10	58.6%	54.8%	58.3%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00			
Total	Fail%		12,611	2.4%	0.03	0.53	0.17	0.03	0.51	0.17	2.1%	4.3%	0.5%
2002	Pass	-	4,302		0.03	0.43	0.13	0.03	0.43	0.13	0.0%	0.0%	0.0%
P	Fail	Pass	30	0.7%	0.20	0.75	0.12	0.05	0.54	0.11	76.2%	27.8%	10.4%
	Fail	Unresolv.	2	0.0%	0.00	0.07	0.02	0.00	0.02	0.01	67.0%	67.0%	67.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00			
Total	Fail%		4,334	0.7%	0.03	0.43	0.13	0.03	0.43	0.13	3.5%	0.3%	0.1%
Total Passenger Vehicles													
All	Pass	-	277,484		0.25	2.78	0.84	0.25	2.78	0.84	0.0%	0.0%	0.0%
P	Fail	Pass	19,251	6.1%	1.54	20.29	2.16	0.40	4.17	1.34	74.1%	79.5%	38.0%
	Fail	Unresolv.	8,241	2.6%	3.07	33.73	2.80	1.00	10.98	0.93	67.3%	67.4%	66.7%
	Fail	Waiver	10,567	3.3%	3.00	34.15	2.96	2.65	30.31	2.77	11.8%	11.3%	6.4%
Total	Fail%		315,543	12.1%	0.49	5.71	1.05	0.36	4.00	0.94	27.4%	29.9%	10.0%
1981	Pass	-	95		1.66	18.67	3.18	1.66	18.67	3.18	0.0%	0.0%	0.0%
T	Fail	Pass	31	20.4%	3.98	54.46	2.90	1.95	25.95	2.84	50.9%	52.3%	2.0%
	Fail	Unresolv.	17	11.2%	13.58	107.75	2.80	4.54	36.15	0.79	66.6%	66.4%	71.9%
	Fail	Waiver	9	5.9%	11.78	90.57	2.35	9.64	87.87	2.85	18.2%	3.0%	-21.2%
Total	Fail%		152	37.5%	4.07	40.19	3.03	2.52	26.21	2.82	38.1%	34.8%	6.9%

IM240 Test Emissions Reductions

Unresolved fails remaining in area 33%

Model Year/Type	First Result	Last Result	Vehicles		Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	Reduction % HC	Reduction % CO	Reduction % NOX
1982	Pass	-	593		1.62	19.14	2.78	1.62	19.14	2.78	0.0%	0.0%	0.0%
T	Fail	Pass	155	18.3%	5.15	52.08	2.97	1.72	22.09	2.81	66.7%	57.6%	5.2%
	Fail	Unresolv.	48	5.7%	7.75	101.58	2.99	2.51	30.89	0.99	67.6%	69.6%	66.9%
	Fail	Waiver	52	6.1%	7.83	94.56	2.92	7.85	97.25	2.73	-0.3%	-2.8%	6.4%
Total	Fail%		848	30.1%	3.00	34.45	2.84	2.07	25.13	2.69	30.8%	27.0%	5.4%
1983	Pass	-	227		1.76	20.13	2.67	1.76	20.13	2.67	0.0%	0.0%	0.0%
T	Fail	Pass	74	22.0%	4.80	45.14	2.93	1.69	22.55	2.55	64.8%	50.0%	12.9%
	Fail	Unresolv.	19	5.7%	8.18	81.51	4.08	2.33	24.78	1.63	71.6%	69.6%	60.2%
	Fail	Waiver	16	4.8%	9.02	102.04	2.04	6.32	72.02	2.47	29.9%	29.4%	-21.6%
Total	Fail%		336	32.4%	3.14	33.01	2.78	1.99	23.40	2.58	36.5%	29.1%	7.3%
1984	Pass	-	1,187		0.89	10.13	2.47	0.89	10.13	2.47	0.0%	0.0%	0.0%
T	Fail	Pass	432	19.4%	3.62	46.83	3.01	0.92	11.68	2.33	74.6%	75.1%	22.5%
	Fail	Unresolv.	245	11.0%	5.49	66.16	3.22	1.87	21.15	1.08	65.9%	68.0%	66.4%
	Fail	Waiver	365	16.4%	5.85	73.19	3.02	5.19	72.30	3.03	11.2%	1.2%	-0.3%
Total	Fail%		2,229	46.7%	2.74	33.73	2.74	1.71	21.82	2.38	37.6%	35.3%	13.3%
1985	Pass	-	427		0.95	11.45	2.49	0.95	11.45	2.49	0.0%	0.0%	0.0%
T	Fail	Pass	141	16.2%	3.81	45.65	3.18	0.98	11.98	2.50	74.4%	73.8%	21.5%
	Fail	Unresolv.	174	20.0%	6.19	70.92	2.89	2.08	22.73	0.95	66.4%	67.9%	67.3%
	Fail	Waiver	130	14.9%	5.34	65.86	3.24	4.58	61.82	2.90	14.3%	6.1%	10.4%
Total	Fail%		872	51.0%	3.11	36.96	2.79	1.72	21.30	2.24	44.7%	42.4%	19.7%
1986	Pass	-	3,024		0.88	8.65	2.40	0.88	8.65	2.40	0.0%	0.0%	0.0%
T	Fail	Pass	690	14.8%	3.33	37.39	2.95	0.92	9.43	2.32	72.4%	74.8%	21.3%
	Fail	Unresolv.	378	8.1%	5.06	57.39	3.29	1.64	19.05	1.09	67.5%	66.8%	66.7%
	Fail	Waiver	565	12.1%	5.33	63.08	2.98	4.67	58.36	2.91	12.4%	7.5%	2.4%
Total	Fail%		4,657	35.1%	2.12	23.47	2.62	1.41	15.64	2.34	33.7%	33.4%	10.7%
1987	Pass	-	941		0.91	8.49	2.54	0.91	8.49	2.54	0.0%	0.0%	0.0%
T	Fail	Pass	168	12.3%	3.45	31.89	3.39	0.86	8.71	2.36	75.1%	72.7%	30.5%
	Fail	Unresolv.	120	8.8%	4.77	52.85	3.26	1.55	17.62	1.05	67.5%	66.7%	67.8%
	Fail	Waiver	137	10.0%	5.34	61.88	3.03	4.89	55.53	2.95	8.6%	10.3%	2.6%
Total	Fail%		1,366	31.1%	2.00	20.62	2.76	1.36	14.04	2.43	32.3%	31.9%	11.9%
1988	Pass	-	5,724		0.88	8.10	2.37	0.88	8.10	2.37	0.0%	0.0%	0.0%
T	Fail	Pass	845	11.5%	2.94	24.80	3.87	0.89	7.08	2.49	69.8%	71.4%	35.5%
	Fail	Unresolv.	339	4.6%	4.93	37.72	4.14	1.62	12.44	1.36	67.1%	67.0%	67.2%
	Fail	Waiver	469	6.4%	4.76	39.86	3.94	4.36	39.60	3.62	8.5%	0.7%	8.0%
Total	Fail%		7,377	22.4%	1.55	13.40	2.72	1.14	10.19	2.42	26.7%	23.9%	11.2%
1989	Pass	-	1,612		0.95	9.17	2.34	0.95	9.17	2.34	0.0%	0.0%	0.0%
T	Fail	Pass	229	10.9%	3.34	31.33	3.61	0.88	8.22	2.33	73.6%	73.8%	35.4%
	Fail	Unresolv.	141	6.7%	6.14	54.94	3.85	2.01	17.21	1.30	67.3%	68.7%	66.2%
	Fail	Waiver	114	5.4%	5.19	52.64	3.82	4.66	45.31	3.53	10.2%	13.9%	7.4%
Total	Fail%		2,096	23.1%	1.79	17.03	2.66	1.21	11.57	2.34	32.1%	32.1%	12.3%
1990	Pass	-	7,761		0.87	8.19	2.35	0.87	8.19	2.35	0.0%	0.0%	0.0%
T	Fail	Pass	920	9.9%	2.64	29.28	3.54	0.91	7.52	2.43	65.4%	74.3%	31.3%
	Fail	Unresolv.	273	2.9%	4.87	46.27	3.76	1.55	15.33	1.23	68.1%	66.9%	67.2%
	Fail	Waiver	353	3.8%	4.70	53.31	3.64	4.52	42.51	3.67	3.8%	20.3%	-0.7%
Total	Fail%		9,307	16.6%	1.31	13.10	2.55	1.04	9.63	2.37	20.9%	26.5%	7.1%
1991	Pass	-	2,153		0.84	8.38	2.05	0.84	8.38	2.05	0.0%	0.0%	0.0%
T	Fail	Pass	192	7.7%	3.11	34.29	2.80	0.82	7.03	2.14	73.5%	79.5%	23.5%
	Fail	Unresolv.	73	2.9%	5.54	52.90	3.02	1.83	17.94	1.06	66.9%	66.1%	64.8%
	Fail	Waiver	80	3.2%	5.41	43.16	3.29	5.34	39.42	3.20	1.3%	8.7%	2.8%
Total	Fail%		2,498	13.8%	1.29	12.78	2.18	1.01	9.55	2.06	22.1%	25.3%	5.1%
1992	Pass	-	12,200		0.82	7.89	2.21	0.82	7.89	2.21	0.0%	0.0%	0.0%
T	Fail	Pass	1,082	7.8%	2.79	28.06	3.25	0.92	7.87	2.18	66.9%	72.0%	32.9%
	Fail	Unresolv.	218	1.6%	3.95	36.66	3.48	1.40	12.29	1.15	64.5%	66.5%	67.1%
	Fail	Waiver	440	3.2%	4.67	38.34	3.48	4.02	32.98	3.37	13.8%	14.0%	3.1%
Total	Fail%		13,940	12.5%	1.14	10.86	2.35	0.94	8.75	2.23	17.9%	19.5%	5.2%
1993	Pass	-	3,086		0.78	7.47	2.13	0.78	7.47	2.13	0.0%	0.0%	0.0%
T	Fail	Pass	198	5.8%	2.76	29.49	2.88	0.91	7.71	2.16	66.9%	73.9%	24.8%
	Fail	Unresolv.	69	2.0%	4.02	35.79	3.41	1.33	11.55	1.16	66.9%	67.7%	66.1%
	Fail	Waiver	56	1.6%	4.90	35.24	3.54	4.94	36.83	3.53	-0.8%	-4.5%	0.1%
Total	Fail%		3,409	9.5%	1.03	9.78	2.22	0.87	8.05	2.14	15.7%	17.7%	3.9%

IM240 Test Emissions Reductions

Unresolved fails remaining in area 33%

Model Year/Type	First Result	Last Result	Vehicles		Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	Reduction % HC	Reduction % CO	Reduction % NOX
1994	Pass	-	18,303		0.73	6.88	1.91	0.73	6.88	1.91	0.0%	0.0%	0.0%
T	Fail	Pass	907	4.6%	2.31	20.16	3.39	0.84	7.38	2.08	63.5%	63.4%	38.8%
	Fail	Unresolv.	149	0.8%	3.62	27.40	4.28	1.24	8.82	1.43	65.7%	67.8%	66.6%
	Fail	Waiver	297	1.5%	3.61	28.16	4.51	3.57	26.75	4.45	1.1%	5.0%	1.4%
Total	Fail%		19,656	6.9%	0.87	7.97	2.04	0.78	7.22	1.95	9.9%	9.4%	4.1%
1995	Pass	-	4,078		0.64	6.72	1.77	0.64	6.72	1.77	0.0%	0.0%	0.0%
T	Fail	Pass	180	4.2%	2.09	18.15	2.77	0.73	7.55	2.00	65.0%	58.4%	27.8%
	Fail	Unresolv.	26	0.6%	3.99	33.25	3.91	1.30	10.78	1.27	67.5%	67.6%	67.5%
	Fail	Waiver	36	0.8%	4.03	26.28	4.20	4.46	27.82	3.82	-10.6%	-5.9%	9.0%
Total	Fail%		4,320	5.6%	0.75	7.52	1.84	0.68	6.95	1.79	9.3%	7.5%	2.8%
1996	Pass	-	17,086		0.28	3.42	1.09	0.28	3.42	1.09	0.0%	0.0%	0.0%
T	Fail	Pass	682	3.8%	0.82	12.43	2.69	0.29	3.78	1.45	63.9%	69.6%	46.0%
	Fail	Unresolv.	91	0.5%	1.98	17.72	3.86	0.56	5.93	1.24	71.5%	66.5%	67.7%
	Fail	Waiver	152	0.8%	1.54	17.61	4.58	1.73	20.02	4.43	-12.5%	-13.7%	3.4%
Total	Fail%		18,011	5.1%	0.32	3.96	1.19	0.30	3.59	1.13	7.9%	9.3%	5.1%
1997	Pass	-	4,490		0.24	3.41	1.01	0.24	3.41	1.01	0.0%	0.0%	0.0%
T	Fail	Pass	148	3.2%	0.74	13.02	1.74	0.23	4.01	1.10	68.9%	69.2%	36.6%
	Fail	Unresolv.	21	0.5%	1.45	19.36	4.04	0.45	6.03	1.32	68.8%	68.9%	67.3%
	Fail	Waiver	7	0.2%	1.57	14.05	3.67	1.52	16.77	3.08	3.1%	-19.3%	16.1%
Total	Fail%		4,666	3.8%	0.26	3.81	1.05	0.24	3.46	1.02	7.8%	9.0%	3.2%
1998	Pass	-	23,245		0.19	2.58	0.88	0.19	2.58	0.88	0.0%	0.0%	0.0%
T	Fail	Pass	370	1.6%	0.48	8.89	1.98	0.20	3.09	1.07	59.6%	65.2%	46.0%
	Fail	Unresolv.	42	0.2%	0.87	11.91	3.84	0.29	4.00	1.29	66.2%	66.4%	66.4%
	Fail	Waiver	24	0.1%	1.12	14.72	4.71	1.05	12.59	4.36	6.2%	14.5%	7.6%
Total	Fail%		23,681	1.8%	0.20	2.70	0.91	0.19	2.60	0.89	2.8%	4.0%	2.1%
1999	Pass	-	8,881		0.15	1.75	0.67	0.15	1.75	0.67	0.0%	0.0%	0.0%
T	Fail	Pass	83	0.9%	0.69	7.61	1.06	0.19	2.19	0.74	73.2%	71.3%	29.9%
	Fail	Unresolv.	7	0.1%	1.88	18.20	1.91	0.63	6.04	0.64	66.8%	66.8%	66.4%
	Fail	Waiver	3	0.0%	1.89	14.26	3.37	1.18	12.50	2.37	37.9%	12.3%	29.9%
Total	Fail%		8,974	1.0%	0.15	1.82	0.68	0.15	1.76	0.67	3.8%	3.3%	0.6%
2000	Pass	-	28,607		0.11	1.29	0.49	0.11	1.29	0.49	0.0%	0.0%	0.0%
T	Fail	Pass	450	1.5%	0.25	3.31	0.93	0.14	2.03	0.76	42.6%	38.8%	18.4%
	Fail	Unresolv.	14	0.0%	0.34	10.01	1.50	0.12	3.42	0.53	64.8%	65.8%	64.8%
	Fail	Waiver	0	0.0%									
Total	Fail%		29,071	1.6%	0.11	1.32	0.50	0.11	1.30	0.50	1.6%	1.7%	0.6%
2001	Pass	-	4,974		0.05	0.86	0.26	0.05	0.86	0.26	0.0%	0.0%	0.0%
T	Fail	Pass	67	1.3%	0.09	1.51	0.39	0.07	1.16	0.39	21.5%	23.2%	-0.8%
	Fail	Unresolv.	5	0.1%	0.06	1.66	0.60	0.02	0.55	0.20	67.0%	67.0%	67.0%
	Fail	Waiver	1	0.0%	1.66	14.65	5.06	1.60	14.31	4.17	3.6%	2.3%	17.5%
Total	Fail%		5,047	1.4%	0.06	0.87	0.26	0.06	0.86	0.26	0.5%	0.7%	0.2%
2002	Pass	-	2,256		0.04	0.78	0.25	0.04	0.78	0.25	0.0%	0.0%	0.0%
T	Fail	Pass	17	0.7%	0.05	1.33	0.31	0.04	1.16	0.21	30.6%	12.7%	31.2%
	Fail	Unresolv.	1	0.0%	0.01	0.01	0.38	0.00	0.00	0.12	67.0%	67.0%	67.0%
	Fail	Waiver	0	0.0%									
Total	Fail%		2,274	0.8%	0.04	0.78	0.25	0.04	0.78	0.25	0.3%	0.2%	0.3%
Total Trucks													
All	Pass	-	150,950		0.43	4.48	1.31	0.43	4.48	1.31	0.0%	0.0%	0.0%
T	Fail	Pass	8,061	4.9%	2.43	25.59	2.98	0.77	7.48	2.03	68.4%	70.8%	31.9%
	Fail	Unresolv.	2,470	1.5%	4.85	48.61	3.54	1.60	15.85	1.18	67.0%	67.4%	66.8%
	Fail	Waiver	3,306	2.0%	4.83	49.93	3.55	4.41	46.26	3.43	8.8%	7.3%	3.3%
Total	Fail%		164,787	8.4%	0.68	7.09	1.47	0.55	5.64	1.38	20.3%	20.5%	5.7%
Fleet Total													
All	Pass	-	428,434		0.31	3.38	1.01	0.31	3.38	1.01	0.0%	0.0%	0.0%
All	Fail	Pass	27,312	5.7%	1.80	21.86	2.40	0.51	5.15	1.54	71.8%	76.5%	35.7%
	Fail	Unresolv.	10,711	2.2%	3.48	37.16	2.97	1.14	12.11	0.99	67.2%	67.4%	66.7%
	Fail	Waiver	13,873	2.9%	3.44	37.91	3.10	3.07	34.11	2.93	10.8%	10.0%	5.5%
Total	Fail%		480,330	10.8%	0.56	6.18	1.19	0.42	4.56	1.09	24.4%	26.2%	8.2%

Appendix B1 IM240 Test Emissions Reductions - RapidScreen Audit Vehicles

Unresolved fails remaining in area 33%

Model Year/Type	First Result	Last Result	Vehicles		Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	Reduction % HC	Reduction % CO	Reduction % NOX
1981	Pass	-	0		0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
P	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
1982	Pass	-	0		0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
P	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
1983	Pass	-	0		0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
P	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
1984	Pass	-	1		0.81	12.18	1.92	0.81	12.18	1.92	0.0%	0.0%	0.0%
P	Fail	Pass	1	50.0%	0.54	6.89	1.30	0.32	1.97	0.72	41.4%	71.5%	44.3%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		2	50.0%	0.68	9.53	1.61	0.56	7.07	1.32	16.5%	25.8%	17.8%
1985	Pass	-	0		0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
P	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
1986	Pass	-	11		0.51	4.56	1.84	0.51	4.56	1.84	0.0%	0.0%	0.0%
P	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		11	0.0%	0.51	4.56	1.84	0.51	4.56	1.84	0.0%	0.0%	0.0%
1987	Pass	-	0		0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
P	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
1988	Pass	-	17		0.40	3.74	1.10	0.40	3.74	1.10	0.0%	0.0%	0.0%
P	Fail	Pass	3	13.0%	2.06	10.45	4.77	0.50	2.23	1.36	75.7%	78.6%	71.4%
	Fail	Unresolv.	1	4.3%	1.70	7.35	0.97	0.56	2.43	0.32	67.0%	67.0%	67.0%
	Fail	Waiver	2	8.7%	1.95	8.64	4.23	1.72	10.94	4.49	12.0%	-26.6%	-6.1%
Total	Fail%		23	26.1%	0.81	5.20	1.85	0.53	4.11	1.39	33.9%	20.9%	24.4%
1989	Pass	-	1		0.20	1.40	0.93	0.20	1.40	0.93	0.0%	0.0%	0.0%
P	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		1	0.0%	0.20	1.40	0.93	0.20	1.40	0.93	0.0%	0.0%	0.0%
1990	Pass	-	69		0.44	5.01	1.35	0.44	5.01	1.35	0.0%	0.0%	0.0%
P	Fail	Pass	3	4.0%	0.42	5.78	1.37	0.19	4.02	1.30	54.7%	30.3%	5.0%
	Fail	Unresolv.	2	2.7%	1.78	13.65	2.96	0.69	7.83	0.91	61.3%	42.7%	69.3%
	Fail	Waiver	1	1.3%	1.31	11.36	7.94	1.11	10.60	9.00	15.7%	6.7%	-13.5%
Total	Fail%		75	8.0%	0.49	5.36	1.48	0.44	5.12	1.44	8.4%	4.4%	2.9%
1991	Pass	-	8		0.38	4.25	1.13	0.38	4.25	1.13	0.0%	0.0%	0.0%
P	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Unresolv.	1	11.1%	1.69	8.83	5.05	0.56	2.91	1.67	67.0%	67.0%	67.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		9	11.1%	0.53	4.75	1.57	0.40	4.10	1.19	23.8%	13.8%	24.0%
1992	Pass	-	85		0.42	4.38	1.23	0.42	4.38	1.23	0.0%	0.0%	0.0%
P	Fail	Pass	6	6.1%	1.46	10.28	3.36	0.34	4.96	1.43	76.8%	51.8%	57.5%
	Fail	Unresolv.	1	1.0%	0.34	18.20	0.44	0.11	6.01	0.15	67.0%	67.0%	67.0%
	Fail	Waiver	6	6.1%	1.74	36.44	1.88	1.86	63.49	1.26	-6.8%	-74.2%	33.1%
Total	Fail%		98	13.3%	0.56	6.84	1.39	0.50	8.05	1.23	11.3%	-17.6%	11.4%

Appendix B1 IM240 Test Emissions Reductions - RapidScreen Audit Vehicles

Unresolved fails remaining in area 33%

Model Year/Type	First Result	Last Result	Vehicles		Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	Reduction % HC	Reduction % CO	Reduction % NOX
1993	Pass	-	9		0.32	2.87	1.60	0.32	2.87	1.60	0.0%	0.0%	0.0%
P	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Unresolv.	1	10.0%	1.06	11.20	4.42	0.55	2.92	1.23	48.5%	74.0%	72.1%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		10	10.0%	0.40	3.70	1.88	0.35	2.87	1.56	12.9%	22.4%	17.0%
1994	Pass	-	225		0.36	3.66	1.10	0.36	3.66	1.10	0.0%	0.0%	0.0%
P	Fail	Pass	5	2.1%	1.14	5.96	0.99	0.34	3.90	0.81	70.5%	34.5%	18.1%
	Fail	Unresolv.	1	0.4%	0.89	10.01	0.56	0.65	6.81	0.36	26.9%	32.0%	36.2%
	Fail	Waiver	2	0.9%	2.19	7.86	4.03	2.15	7.85	3.89	2.0%	0.1%	3.4%
Total	Fail%		233	3.4%	0.39	3.77	1.12	0.37	3.71	1.11	4.8%	1.5%	0.5%
1995	Pass	-	23		0.35	2.66	1.22	0.35	2.66	1.22	0.0%	0.0%	0.0%
P	Fail	Pass	1	4.2%	0.36	18.36	1.85	0.23	9.17	1.90	36.2%	50.1%	-2.8%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		24	4.2%	0.35	3.31	1.25	0.34	2.93	1.25	1.5%	11.6%	-0.2%
1996	Pass	-	372		0.19	2.07	0.68	0.19	2.07	0.68	0.0%	0.0%	0.0%
P	Fail	Pass	16	4.1%	0.70	10.99	0.93	0.20	2.77	0.62	71.6%	74.8%	33.2%
	Fail	Unresolv.	1	0.3%	0.21	10.74	1.68	0.10	3.41	0.88	54.3%	68.2%	47.4%
	Fail	Waiver	2	0.5%	1.24	5.32	3.22	0.94	6.72	2.60	24.5%	-26.4%	19.5%
Total	Fail%		391	4.9%	0.22	2.48	0.71	0.20	2.13	0.69	10.2%	14.1%	2.5%
1997	Pass	-	15		0.20	1.71	0.60	0.20	1.71	0.60	0.0%	0.0%	0.0%
P	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		15	0.0%	0.20	1.71	0.60	0.20	1.71	0.60	0.0%	0.0%	0.0%
1998	Pass	-	484		0.15	1.76	0.50	0.15	1.76	0.50	0.0%	0.0%	0.0%
P	Fail	Pass	6	1.2%	0.18	5.41	0.81	0.28	4.03	0.75	-55.2%	25.4%	7.7%
	Fail	Unresolv.	1	0.2%	0.04	0.20	0.01	0.01	0.07	0.00	67.0%	67.0%	67.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		491	1.4%	0.15	1.80	0.50	0.15	1.79	0.50	-0.8%	0.9%	0.2%
1999	Pass	-	4		0.09	1.14	0.46	0.09	1.14	0.46	0.0%	0.0%	0.0%
P	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		4	0.0%	0.09	1.14	0.46	0.09	1.14	0.46	0.0%	0.0%	0.0%
2000	Pass	-	439		0.06	0.86	0.27	0.06	0.86	0.27	0.0%	0.0%	0.0%
P	Fail	Pass	9	2.0%	0.04	1.20	0.34	0.04	1.27	0.41	8.1%	-6.0%	-21.8%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		448	2.0%	0.06	0.86	0.28	0.06	0.86	0.28	0.1%	-0.2%	-0.5%
2001	Pass	-	0		-	-	-	-	-	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
2002	Pass	-	0		-	-	-	-	-	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
Total Passenger Vehicles													
All	Pass	-	1,763		0.20	2.17	0.66	0.20	2.17	0.66	0.0%	0.0%	0.0%
P	Fail	Pass	50	2.7%	0.71	7.69	1.39	0.23	3.18	0.83	67.4%	58.6%	40.5%
	Fail	Unresolv.	9	0.5%	1.06	10.43	2.12	0.44	4.47	0.71	58.8%	57.2%	66.3%
	Fail	Waiver	13	0.7%	1.73	21.05	3.24	1.68	34.04	2.96	2.9%	-61.7%	8.7%
Total	Fail%		1,835	3.9%	0.23	2.49	0.71	0.21	2.43	0.68	7.2%	2.4%	3.4%
1981	Pass	-	0		0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
T	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%

Appendix B1 IM240 Test Emissions Reductions - RapidScreen Audit Vehicles

Unresolved fails remaining in area 33%

Model Year/Type	First Result	Last Result	Vehicles		Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	Reduction % HC	Reduction % CO	Reduction % NOX
1982	Pass	-	0		0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
T	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
1983	Pass	-	0		0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
T	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
1984	Pass	-	0		0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
T	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Unresolv.	1	100.0%	2.77	26.97	4.32	0.91	8.90	1.43	67.0%	67.0%	67.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		1	100.0%	2.77	26.97	4.32	0.91	8.90	1.43	67.0%	67.0%	67.0%
1985	Pass	-	0		0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
T	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Unresolv.	1	100.0%	2.27	53.66	1.58	0.75	17.71	0.52	67.0%	67.0%	67.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		1	100.0%	2.27	53.66	1.58	0.75	17.71	0.52	67.0%	67.0%	67.0%
1986	Pass	-	3		0.66	4.37	2.35	0.66	4.37	2.35	0.0%	0.0%	0.0%
T	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		3	0.0%	0.66	4.37	2.35	0.66	4.37	2.35	0.0%	0.0%	0.0%
1987	Pass	-	1		0.32	2.00	5.35	0.32	2.00	5.35	0.0%	0.0%	0.0%
T	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		1	0.0%	0.32	2.00	5.35	0.32	2.00	5.35	0.0%	0.0%	0.0%
1988	Pass	-	10		0.68	6.93	1.99	0.68	6.93	1.99	0.0%	0.0%	0.0%
T	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		10	0.0%	0.68	6.93	1.99	0.68	6.93	1.99	0.0%	0.0%	0.0%
1989	Pass	-	0		0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
T	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
1990	Pass	-	12		1.10	10.07	2.26	1.10	10.07	2.26	0.0%	0.0%	0.0%
T	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Unresolv.	1	7.7%	15.15	287.59	0.53	5.00	94.90	0.17	67.0%	67.0%	67.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		13	7.7%	2.18	31.42	2.13	1.40	16.59	2.10	35.8%	47.2%	1.3%
1991	Pass	-	2		1.05	9.59	1.37	1.05	9.59	1.37	0.0%	0.0%	0.0%
T	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		2	0.0%	1.05	9.59	1.37	1.05	9.59	1.37	0.0%	0.0%	0.0%
1992	Pass	-	34		0.74	7.32	2.47	0.74	7.32	2.47	0.0%	0.0%	0.0%
T	Fail	Pass	1	2.9%	0.71	14.75	2.94	0.42	6.09	1.49	40.8%	58.7%	49.3%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		35	2.9%	0.74	7.53	2.48	0.73	7.29	2.44	1.1%	3.3%	1.7%
1993	Pass	-	8		0.86	7.85	1.65	0.86	7.85	1.65	0.0%	0.0%	0.0%
T	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		8	0.0%	0.86	7.85	1.65	0.86	7.85	1.65	0.0%	0.0%	0.0%

Appendix B1 IM240 Test Emissions Reductions - RapidScreen Audit Vehicles

Unresolved fails remaining in area 33%

Model Year/Type	First Result	Last Result	Vehicles		Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	Reduction % HC	Reduction % CO	Reduction % NOX
1994	Pass	-	128		0.73	6.69	1.94	0.73	6.69	1.94	0.0%	0.0%	0.0%
T	Fail	Pass	2	1.5%	1.48	13.22	3.76	0.79	6.23	1.81	46.6%	52.9%	51.7%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Waiver	1	0.8%	1.98	10.04	2.41	2.05	9.74	2.05	-3.8%	2.9%	15.0%
Total	Fail%		131	2.3%	0.75	6.81	1.97	0.74	6.71	1.93	1.3%	1.6%	1.6%
1995	Pass	-	9		0.95	8.47	2.48	0.95	8.47	2.48	0.0%	0.0%	0.0%
T	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		9	0.0%	0.95	8.47	2.48	0.95	8.47	2.48	0.0%	0.0%	0.0%
1996	Pass	-	206		0.27	3.26	1.05	0.27	3.26	1.05	0.0%	0.0%	0.0%
T	Fail	Pass	7	3.2%	0.55	5.98	1.97	0.41	4.56	1.26	25.9%	23.7%	36.0%
	Fail	Unresolv.	2	0.9%	1.06	13.93	4.60	0.35	4.60	1.52	67.0%	67.0%	67.0%
	Fail	Waiver	1	0.5%	1.75	8.26	3.87	1.61	5.68	3.15	7.9%	31.2%	18.6%
Total	Fail%		216	4.6%	0.29	3.47	1.13	0.28	3.32	1.07	4.1%	4.2%	4.9%
1997	Pass	-	13		0.35	3.50	1.25	0.35	3.50	1.25	0.0%	0.0%	0.0%
T	Fail	Pass	2	13.3%	0.61	11.76	2.91	0.18	3.66	1.30	70.9%	68.9%	55.2%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		15	13.3%	0.38	4.60	1.47	0.32	3.52	1.26	15.2%	23.5%	14.6%
1998	Pass	-	305		0.21	2.57	0.93	0.21	2.57	0.93	0.0%	0.0%	0.0%
T	Fail	Pass	5	1.6%	0.47	4.62	2.49	0.38	3.60	1.23	18.9%	22.1%	50.5%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		310	1.6%	0.21	2.60	0.95	0.21	2.58	0.93	0.7%	0.6%	2.1%
1999	Pass	-	7		0.11	1.24	0.69	0.11	1.24	0.69	0.0%	0.0%	0.0%
T	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		7	0.0%	0.11	1.24	0.69	0.11	1.24	0.69	0.0%	0.0%	0.0%
2000	Pass	-	328		0.10	1.21	0.54	0.10	1.21	0.54	0.0%	0.0%	0.0%
T	Fail	Pass	4	1.2%	0.17	2.09	0.95	0.05	1.20	0.63	67.3%	42.6%	32.9%
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00	0.0%	0.0%	0.0%
Total	Fail%		332	1.2%	0.10	1.22	0.54	0.10	1.21	0.54	1.3%	0.9%	0.7%
2001	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
2002	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
Total Trucks													
All	Pass	-	1,066		0.30	3.17	1.06	0.30	3.17	1.06	0.0%	0.0%	0.0%
T	Fail	Pass	21	1.9%	0.56	6.57	2.20	0.35	3.84	1.20	37.6%	41.6%	45.5%
	Fail	Unresolv.	5	0.5%	4.46	79.21	3.12	1.47	26.14	1.03	67.0%	67.0%	67.0%
	Fail	Waiver	2	0.2%	1.86	9.15	3.14	1.83	7.71	2.60	1.7%	15.7%	17.2%
Total	Fail%		1,094	2.6%	0.32	3.59	1.09	0.31	3.29	1.06	5.5%	8.3%	2.7%
Fleet Total													
All	Pass	-	2,829		0.23	2.54	0.81	0.23	2.54	0.81	0.0%	0.0%	0.0%
All	Fail	Pass	71	2.4%	0.67	7.36	1.63	0.27	3.38	0.94	60.0%	54.1%	42.5%
	Fail	Unresolv.	14	0.5%	2.27	34.99	2.48	0.81	12.21	0.83	64.5%	65.1%	66.6%
	Fail	Waiver	15	0.5%	1.75	19.46	3.23	1.70	30.53	2.91	2.8%	-56.9%	9.8%
Total	Fail%		2,929	3.4%	0.26	2.90	0.85	0.25	2.75	0.82	6.4%	5.1%	3.1%

Appendix B2 Enhanced Idle Test Emissions Reductions

Unresolved fails remaining in area 33%

Model Year/Type	First Result	Last Result	Vehicles	Fail%	Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	Reduction % HC	Reduction % CO	Reduction % NOX
1981	Pass	-	5,677		220.88	1.47	-	220.88	1.47	-	-	-	-
P	Fail	Pass	107	1.5%	1,151.49	3.56	-	303.95	2.08	-	73.6%	41.7%	-
	Fail	Unresolv.	1,333	18.7%	1,307.17	4.37	-	332.02	1.18	-	74.6%	73.1%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		7,117	20.2%	438.33	2.04	-	242.94	1.42	-	44.6%	30.4%	-
1982	Pass	-	123		87.29	0.21	-	87.29	0.21	-	-	-	-
P	Fail	Pass	16	7.3%	223.94	1.65	-	95.38	0.35	-	57.4%	79.0%	-
	Fail	Unresolv.	80	36.5%	600.29	2.26	-	166.31	0.75	-	72.3%	66.8%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		219	43.8%	284.67	1.06	-	116.75	0.42	-	59.0%	60.9%	-
1983	Pass	-	77		83.40	0.17	-	83.40	0.17	-	-	-	-
P	Fail	Pass	8	5.6%	236.13	0.09	-	135.38	0.10	-	42.7%	-22.1%	-
	Fail	Unresolv.	57	40.1%	578.16	3.28	-	181.68	1.09	-	68.6%	66.8%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		142	45.8%	290.61	1.41	-	125.78	0.53	-	56.7%	62.2%	-
1984	Pass	-	371		79.64	0.13	-	79.64	0.13	-	-	-	-
P	Fail	Pass	35	5.9%	390.09	1.90	-	115.91	0.47	-	70.3%	75.4%	-
	Fail	Unresolv.	184	31.2%	633.70	2.35	-	214.71	0.65	-	66.1%	72.2%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		590	37.1%	270.85	0.93	-	123.92	0.31	-	54.2%	66.1%	-
1985	Pass	-	146		89.24	0.20	-	89.24	0.20	-	-	-	-
P	Fail	Pass	10	4.0%	257.70	0.45	-	82.60	0.45	-	67.9%	-1.3%	-
	Fail	Unresolv.	93	37.3%	793.86	2.48	-	249.69	0.75	-	68.5%	69.7%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		249	41.4%	359.18	1.06	-	148.90	0.42	-	58.5%	60.9%	-
1986	Pass	-	444		93.20	0.16	-	93.20	0.16	-	-	-	-
P	Fail	Pass	27	3.8%	424.11	1.72	-	126.93	0.26	-	70.1%	84.8%	-
	Fail	Unresolv.	235	33.3%	656.12	2.21	-	214.65	0.71	-	67.3%	67.9%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		706	37.1%	293.23	0.90	-	134.91	0.35	-	54.0%	61.6%	-
1987	Pass	-	140		102.31	0.18	-	102.31	0.18	-	-	-	-
P	Fail	Pass	18	7.1%	426.72	0.32	-	141.17	0.25	-	66.9%	22.5%	-
	Fail	Unresolv.	94	37.3%	931.84	2.11	-	283.94	0.70	-	69.5%	66.6%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		252	44.4%	434.91	0.91	-	172.84	0.38	-	60.3%	58.0%	-
1988	Pass	-	528		92.03	0.17	-	92.03	0.17	-	-	-	-
P	Fail	Pass	30	4.4%	342.37	1.19	-	230.60	0.54	-	32.6%	54.2%	-
	Fail	Unresolv.	129	18.8%	735.49	2.01	-	233.97	0.60	-	68.2%	70.3%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		687	23.1%	223.79	0.56	-	124.73	0.27	-	44.3%	52.4%	-
1989	Pass	-	145		81.14	0.15	-	81.14	0.15	-	-	-	-
P	Fail	Pass	12	5.8%	594.08	1.49	-	118.92	0.19	-	80.0%	87.0%	-
	Fail	Unresolv.	50	24.2%	524.62	1.50	-	171.39	0.51	-	67.3%	65.8%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		207	30.0%	218.00	0.56	-	105.13	0.24	-	51.8%	56.3%	-
1990	Pass	-	506		88.76	0.18	-	88.76	0.18	-	-	-	-
P	Fail	Pass	23	3.6%	265.13	0.63	-	127.13	0.24	-	52.0%	61.5%	-
	Fail	Unresolv.	111	17.3%	593.34	2.29	-	178.43	0.67	-	69.9%	70.6%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		640	20.9%	182.61	0.56	-	105.69	0.27	-	42.1%	52.3%	-
1991	Pass	-	223		80.52	0.16	-	80.52	0.16	-	-	-	-
P	Fail	Pass	5	1.8%	178.60	0.43	-	122.20	0.18	-	31.6%	56.8%	-
	Fail	Unresolv.	50	18.0%	575.30	1.83	-	167.54	0.49	-	70.9%	72.9%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		278	19.8%	171.27	0.46	-	96.92	0.22	-	43.4%	52.9%	-
1992	Pass	-	831		74.66	0.14	-	74.66	0.14	-	-	-	-
P	Fail	Pass	23	2.3%	229.48	0.89	-	80.91	0.54	-	64.7%	38.7%	-
	Fail	Unresolv.	125	12.8%	512.60	2.46	-	162.23	0.76	-	68.4%	69.1%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		979	15.1%	134.21	0.46	-	85.99	0.23	-	35.9%	49.2%	-

Appendix B2 Enhanced Idle Test Emissions Reductions

Unresolved fails remaining in area 33%

Model Year/Type	First Result	Last Result	Vehicles	Fail%	Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	Reduction % HC	Reduction % CO	Reduction % NOX
1993	Pass	-	239		76.37	0.14	-	76.37	0.14	-	-	-	-
P	Fail	Pass	6	2.2%	84.67	0.10	-	60.83	0.15	-	28.1%	-55.0%	-
	Fail	Unresolv.	32	11.6%	873.44	2.44	-	215.78	0.54	-	75.3%	77.9%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		277	13.7%	168.63	0.41	-	92.14	0.19	-	45.4%	53.7%	-
1994	Pass	-	1,232		68.78	0.13	-	68.78	0.13	-	-	-	-
P	Fail	Pass	18	1.4%	196.72	0.37	-	92.78	0.20	-	52.8%	46.0%	-
	Fail	Unresolv.	74	5.6%	505.85	1.03	-	151.40	0.33	-	70.1%	67.6%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1,324	6.9%	94.95	0.19	-	73.72	0.14	-	22.4%	22.2%	-
1995	Pass	-	272		50.44	0.08	-	50.44	0.08	-	-	-	-
P	Fail	Pass	10	3.4%	183.50	0.41	-	69.20	0.17	-	62.3%	58.8%	-
	Fail	Unresolv.	12	4.1%	475.25	1.82	-	152.46	0.54	-	67.9%	70.4%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		294	7.5%	72.31	0.16	-	55.25	0.10	-	23.6%	36.9%	-
1996	Pass	-	764		28.02	0.04	-	28.02	0.04	-	-	-	-
P	Fail	Pass	12	1.5%	52.50	0.06	-	35.17	0.04	-	33.0%	25.7%	-
	Fail	Unresolv.	18	2.3%	258.11	0.64	-	75.24	0.20	-	70.8%	68.8%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		794	3.8%	33.61	0.06	-	29.20	0.05	-	13.1%	18.0%	-
1997	Pass	-	226		31.56	0.05	-	31.56	0.05	-	-	-	-
P	Fail	Pass	1	0.4%	104.00	-	-	78.00	-	-	25.0%	-	-
	Fail	Unresolv.	5	2.2%	206.80	1.45	-	46.60	0.26	-	77.5%	82.1%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		232	2.6%	35.65	0.08	-	32.08	0.06	-	10.0%	30.5%	-
1998	Pass	-	691		39.06	0.05	-	39.06	0.05	-	-	-	-
P	Fail	Pass	13	1.8%	126.31	0.68	-	69.92	0.14	-	44.6%	79.9%	-
	Fail	Unresolv.	9	1.3%	211.44	1.14	-	69.70	0.35	-	67.0%	68.8%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		713	3.1%	42.83	0.08	-	40.01	0.06	-	6.6%	24.9%	-
1999	Pass	-	231		26.74	0.04	-	26.74	0.04	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	1	0.4%	72.00	0.08	-	23.76	0.03	-	67.0%	67.0%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		232	0.4%	26.94	0.04	-	26.73	0.04	-	0.8%	0.5%	-
2000	Pass	-	885		21.37	0.02	-	21.37	0.02	-	-	-	-
P	Fail	Pass	7	0.8%	53.86	0.95	-	7.29	0.01	-	86.5%	98.8%	-
	Fail	Unresolv.	9	1.0%	432.67	0.82	-	134.31	0.27	-	69.0%	67.6%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		901	1.8%	25.73	0.04	-	22.39	0.03	-	13.0%	32.6%	-
2001	Pass	-	246		12.24	0.01	-	12.24	0.01	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	1	0.4%	120.00	2.28	-	39.60	0.75	-	67.0%	67.0%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		247	0.4%	12.68	0.02	-	12.35	0.01	-	2.6%	29.3%	-
2002	Pass	-	89		11.64	0.01	-	11.64	0.01	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	1	1.1%	679.00	0.68	-	224.07	0.22	-	67.0%	67.0%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		90	1.1%	19.06	0.01	-	14.00	0.01	-	26.5%	34.3%	-
Total Passenger Vehicles													
All	Pass	-	14,086		124.66	0.66	0.00	124.66	0.66	0.00	0.0%	0.0%	-
P	Fail	Pass	381	2.2%	531.10	1.70	0.00	167.75	0.81	0.00	68.4%	52.7%	-
	Fail	Unresolv.	2,703	15.7%	968.88	3.25	0.00	265.25	0.91	0.00	72.6%	71.8%	-
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00			-
Total	Fail%		17,170	18.0%	266.58	1.09	0.00	147.75	0.70	0.00	44.6%	35.6%	-
1981	Pass	-	2,819		234.78	2.05	-	234.78	2.05	-	-	-	-
T	Fail	Pass	94	2.4%	1,060.82	3.72	-	315.17	1.55	-	70.3%	58.4%	-
	Fail	Unresolv.	1,011	25.8%	1,201.25	4.42	-	306.13	1.22	-	74.5%	72.4%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		3,924	28.2%	503.57	2.70	-	255.09	1.82	-	49.3%	32.5%	-

Appendix B2 Enhanced Idle Test Emissions Reductions

Unresolved fails remaining in area 33%

Model Year/Type	First Result	Last Result	Vehicles	Fail%	Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	Reduction % HC	Reduction % CO	Reduction % NOX
1982	Pass	-	55		79.73	0.31	-	79.73	0.31	-	-	-	-
T	Fail	Pass	13	7.6%	213.00	1.75	-	95.15	0.37	-	55.3%	78.9%	-
	Fail	Unresolv.	103	60.2%	829.84	3.27	-	253.79	1.08	-	69.4%	67.1%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		171	67.8%	541.68	2.20	-	185.75	0.77	-	65.7%	64.8%	-
1983	Pass	-	19		96.42	0.32	-	96.42	0.32	-	-	-	-
T	Fail	Pass	6	6.6%	607.00	2.18	-	103.50	0.09	-	82.9%	95.9%	-
	Fail	Unresolv.	66	72.5%	853.56	2.59	-	280.28	0.84	-	67.2%	67.5%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		91	79.1%	679.22	2.09	-	230.24	0.69	-	66.1%	67.2%	-
1984	Pass	-	201		102.36	0.25	-	102.36	0.25	-	-	-	-
T	Fail	Pass	37	8.3%	445.76	1.50	-	96.30	0.22	-	78.4%	85.1%	-
	Fail	Unresolv.	207	46.5%	661.78	2.38	-	213.83	0.70	-	67.7%	70.5%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		445	54.8%	391.14	1.34	-	153.71	0.46	-	60.7%	66.0%	-
1985	Pass	-	94		90.34	0.25	-	90.34	0.25	-	-	-	-
T	Fail	Pass	13	6.7%	430.92	1.94	-	123.31	0.33	-	71.4%	82.7%	-
	Fail	Unresolv.	88	45.1%	727.92	2.14	-	225.77	0.63	-	69.0%	70.6%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		195	51.8%	400.77	1.21	-	153.65	0.43	-	61.7%	64.9%	-
1986	Pass	-	371		107.61	0.22	-	107.61	0.22	-	-	-	-
T	Fail	Pass	49	6.4%	471.88	1.54	-	143.67	0.39	-	69.6%	74.6%	-
	Fail	Unresolv.	344	45.0%	693.31	2.74	-	212.47	0.79	-	69.4%	71.1%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		764	51.4%	394.69	1.44	-	157.14	0.49	-	60.2%	66.0%	-
1987	Pass	-	125		109.94	0.28	-	109.94	0.28	-	-	-	-
T	Fail	Pass	23	9.1%	647.70	1.56	-	110.17	0.42	-	83.0%	73.0%	-
	Fail	Unresolv.	106	41.7%	567.13	2.54	-	189.42	0.75	-	66.6%	70.5%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		254	50.8%	349.43	1.34	-	143.13	0.49	-	59.0%	63.5%	-
1988	Pass	-	542		103.96	0.23	-	103.96	0.23	-	-	-	-
T	Fail	Pass	51	6.3%	322.80	1.37	-	124.63	0.46	-	61.4%	66.4%	-
	Fail	Unresolv.	222	27.2%	575.48	1.99	-	160.23	0.56	-	72.2%	71.6%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		815	33.5%	246.09	0.78	-	120.58	0.34	-	51.0%	56.8%	-
1989	Pass	-	144		111.60	0.26	-	111.60	0.26	-	-	-	-
T	Fail	Pass	12	5.4%	535.75	0.85	-	136.25	0.40	-	74.6%	53.2%	-
	Fail	Unresolv.	67	30.0%	740.34	2.23	-	215.40	0.66	-	70.9%	70.4%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		223	35.4%	323.33	0.88	-	144.11	0.39	-	55.4%	56.2%	-
1990	Pass	-	421		100.24	0.22	-	100.24	0.22	-	-	-	-
T	Fail	Pass	41	7.0%	256.61	1.10	-	130.15	0.33	-	49.3%	69.5%	-
	Fail	Unresolv.	127	21.6%	595.26	2.24	-	161.72	0.65	-	72.8%	70.7%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		589	28.5%	217.86	0.71	-	115.58	0.32	-	46.9%	55.1%	-
1991	Pass	-	121		90.41	0.20	-	90.41	0.20	-	-	-	-
T	Fail	Pass	13	7.6%	338.77	1.08	-	100.23	0.15	-	70.4%	86.5%	-
	Fail	Unresolv.	37	21.6%	714.41	2.06	-	209.51	0.62	-	70.7%	69.9%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		171	29.2%	244.31	0.67	-	116.93	0.29	-	52.1%	56.9%	-
1992	Pass	-	418		96.22	0.22	-	96.22	0.22	-	-	-	-
T	Fail	Pass	24	4.5%	167.25	0.43	-	129.71	0.32	-	22.4%	27.0%	-
	Fail	Unresolv.	93	17.4%	573.10	1.57	-	172.16	0.51	-	70.0%	67.6%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		535	21.9%	182.30	0.47	-	110.92	0.28	-	39.2%	40.7%	-
1993	Pass	-	108		102.70	0.25	-	102.70	0.25	-	-	-	-
T	Fail	Pass	3	2.3%	242.33	0.53	-	169.33	0.33	-	30.1%	38.0%	-
	Fail	Unresolv.	20	15.3%	843.15	2.54	-	274.89	0.88	-	67.4%	65.4%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		131	17.6%	218.95	0.61	-	130.52	0.35	-	40.4%	42.5%	-

Appendix B2 Enhanced Idle Test Emissions Reductions

Unresolved fails remaining in area 33%

Model Year/Type	First Result	Last Result	Vehicles	Fail%	Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	Reduction % HC	Reduction % CO	Reduction % NOX
1994	Pass	-	514		92.69	0.31	-	92.69	0.31	-	-	-	-
T	Fail	Pass	6	1.0%	458.17	0.74	-	97.00	0.40	-	78.8%	46.5%	-
	Fail	Unresolv.	63	10.8%	549.95	1.47	-	172.50	0.47	-	68.6%	68.3%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		583	11.8%	145.86	0.44	-	101.36	0.33	-	30.5%	25.5%	-
1995	Pass	-	92		76.88	0.26	-	76.88	0.26	-	-	-	-
T	Fail	Pass	4	3.8%	362.75	0.18	-	83.75	0.05	-	76.9%	73.2%	-
	Fail	Unresolv.	10	9.4%	557.80	0.56	-	177.51	0.18	-	68.2%	67.9%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		106	13.2%	133.04	0.29	-	86.63	0.24	-	34.9%	14.4%	-
1996	Pass	-	418		39.29	0.11	-	39.29	0.11	-	-	-	-
T	Fail	Pass	6	1.4%	40.83	0.16	-	32.50	0.15	-	20.4%	6.2%	-
	Fail	Unresolv.	11	2.5%	360.73	0.42	-	85.65	0.12	-	76.3%	72.5%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		435	3.9%	47.44	0.12	-	40.37	0.11	-	14.9%	6.6%	-
1997	Pass	-	242		35.62	0.09	-	35.62	0.09	-	-	-	-
T	Fail	Pass	1	0.4%	10.00	-	-	12.00	-	-	-20.0%	-	-
	Fail	Unresolv.	3	1.2%	88.67	0.20	-	29.26	0.06	-	67.0%	67.0%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		246	1.6%	36.16	0.09	-	35.45	0.09	-	2.0%	1.8%	-
1998	Pass	-	854		28.41	0.07	-	28.41	0.07	-	-	-	-
T	Fail	Pass	6	0.7%	64.33	0.21	-	24.00	0.08	-	62.7%	63.5%	-
	Fail	Unresolv.	8	0.9%	47.38	0.10	-	15.63	0.03	-	67.0%	67.0%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		868	1.6%	28.83	0.07	-	28.26	0.07	-	2.0%	2.1%	-
1999	Pass	-	393		23.32	0.04	-	23.32	0.04	-	-	-	-
T	Fail	Pass	1	0.3%	10.00	-	-	50.00	0.36	-	-400.0%	-	-
	Fail	Unresolv.	1	0.3%	2.00	-	-	0.66	-	-	67.0%	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		395	0.5%	23.23	0.04	-	23.33	0.04	-	-0.4%	-2.4%	-
2000	Pass	-	1,435		18.30	0.03	-	18.30	0.03	-	-	-	-
T	Fail	Pass	10	0.7%	35.00	0.01	-	10.00	0.00	-	71.4%	92.3%	-
	Fail	Unresolv.	7	0.5%	27.71	0.09	-	9.15	0.03	-	67.0%	67.0%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1,452	1.2%	18.46	0.03	-	18.20	0.03	-	1.4%	1.1%	-
2001	Pass	-	356		10.85	0.01	-	10.85	0.01	-	-	-	-
T	Fail	Pass	6	1.6%	36.33	0.09	-	47.00	0.10	-	-29.4%	-5.5%	-
	Fail	Unresolv.	3	0.8%	9.33	-	-	3.08	-	-	67.0%	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		365	2.5%	11.26	0.01	-	11.38	0.01	-	-1.1%	-1.0%	-
2002	Pass	-	239		9.06	0.00	-	9.06	0.00	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		239	-	9.06	0.00	-	9.06	0.00	-	-	-	-
Total Trucks													
All	Pass	-	9,981		107.52	0.68	-	107.52	0.68	0.00	0.0%	0.0%	-
T	Fail	Pass	419	3.2%	511.26	1.76	-	157.94	0.60	0.00	69.1%	66.1%	-
	Fail	Unresolv.	2,597	20.0%	866.60	3.13	-	240.70	0.89	0.00	72.2%	71.4%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		12,997	23.2%	272.21	1.20	-	135.76	0.72	0.00	50.1%	40.2%	-
Fleet Total													
All	Pass	-	24,067		117.55	0.66	-	117.55	0.66	-	-	-	-
All	Fail	Pass	800	2.7%	520.71	1.73	-	162.61	0.70	-	68.8%	59.8%	-
	Fail	Unresolv.	5,300	17.6%	918.76	3.19	-	253.22	0.91	-	72.4%	71.6%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		30,167	20.2%	269.01	1.14	-	142.58	0.71	-	47.0%	37.7%	-

Apendix B2 Enhanced Idle Test Emissions Reductions - RapidScreen Audit Vehicles

Unresolved fails remaining in area 33%

Model Year/Type	First Result	Last Result	Vehicles	Fail%	Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	Reduction % HC	Reduction % CO	Reduction % NOX
1981	Pass	-	1		100.00	3.63	-	100.00	3.63	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1	-	100.00	3.63	-	100.00	3.63	-	-	-	-
1982	Pass	-	0		-	-	-	-	-	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1983	Pass	-	0		-	-	-	-	-	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1984	Pass	-	0		-	-	-	-	-	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1985	Pass	-	0		-	-	-	-	-	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1986	Pass	-	0		-	-	-	-	-	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1987	Pass	-	0		-	-	-	-	-	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1988	Pass	-	0		-	-	-	-	-	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	1	100.0%	1,130.00	0.62	-	372.90	0.20	-	67.0%	67.0%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1	100.0%	1,130.00	0.62	-	372.90	0.20	-	67.0%	67.0%	-
1989	Pass	-	0		-	-	-	-	-	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1990	Pass	-	3		86.33	0.44	-	86.33	0.44	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		3	-	86.33	0.44	-	86.33	0.44	-	-	-	-
1991	Pass	-	0		-	-	-	-	-	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1992	Pass	-	3		106.67	0.46	-	106.67	0.46	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		3	-	106.67	0.46	-	106.67	0.46	-	-	-	-

Apendix B2 Enhanced Idle Test Emissions Reductions - RapidScreen Audit Vehicles

Unresolved fails remaining in area 33%

Model Year/Type	First Result	Last Result	Vehicles	Fail%	Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	Reduction % HC	Reduction % CO	Reduction % NOX
1993	Pass	-	0		-	-	-	-	-	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1994	Pass	-	10		50.60	0.09	-	50.60	0.09	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		10	-	50.60	0.09	-	50.60	0.09	-	-	-	-
1995	Pass	-	1		19.00	0.05	-	19.00	0.05	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1	-	19.00	0.05	-	19.00	0.05	-	-	-	-
1996	Pass	-	11		29.27	0.05	-	29.27	0.05	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		11	-	29.27	0.05	-	29.27	0.05	-	-	-	-
1997	Pass	-	0		-	-	-	-	-	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1998	Pass	-	3		78.00	0.05	-	78.00	0.05	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		3	-	78.00	0.05	-	78.00	0.05	-	-	-	-
1999	Pass	-	1		44.00	0.09	-	44.00	0.09	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1	-	44.00	0.09	-	44.00	0.09	-	-	-	-
2000	Pass	-	12		21.08	0.01	-	21.08	0.01	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		12	-	21.08	0.01	-	21.08	0.01	-	-	-	-
2001	Pass	-	1		2.00	-	-	2.00	-	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1	-	2.00	-	-	2.00	-	-	-	-	-
2002	Pass	-	0		-	-	-	-	-	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
Total Passenger Vehicles													
All	Pass	-	46		44.76	0.18	0.00	44.76	0.18	0.00	0.0%	0.0%	-
P	Fail	Pass	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00			-
	Fail	Unresolv.	1	2.1%	1130.00	0.62	0.00	372.90	0.20	0.00	67.0%	67.0%	-
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00			-
Total	Fail%		47	2.1%	67.85	0.19	0.00	51.74	0.18	0.00	23.7%	4.7%	-
1981	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-

Apendix B2 Enhanced Idle Test Emissions Reductions - RapidScreen Audit Vehicles

Unresolved fails remaining in area 33%

Model Year/Type	First Result	Last Result	Vehicles	Fail%	Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	Reduction % HC	Reduction % CO	Reduction % NOX
1982	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1983	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1984	Pass	-	1		58.00	0.34	-	58.00	0.34	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1	-	58.00	0.34	-	58.00	0.34	-	-	-	-
1985	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1986	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1987	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1988	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1989	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1990	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1991	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1992	Pass	-	1		93.00	0.05	-	93.00	0.05	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1	-	93.00	0.05	-	93.00	0.05	-	-	-	-
1993	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-

Apendix B2 Enhanced Idle Test Emissions Reductions - RapidScreen Audit Vehicles

Unresolved fails remaining in area 33%

Model Year/Type	First Result	Last Result	Vehicles	Fail%	Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	Reduction % HC	Reduction % CO	Reduction % NOX
1994	Pass	-	3		139.67	0.66	-	139.67	0.66	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		3	-	139.67	0.66	-	139.67	0.66	-	-	-	-
1995	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1996	Pass	-	3		55.33	0.18	-	55.33	0.18	-	-	-	-
T	Fail	Pass	1	25.0%	92.00	0.22	-	8.00	-	-	91.3%	100.0%	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		4	25.0%	64.50	0.19	-	43.50	0.14	-	32.6%	28.6%	-
1997	Pass	-	3		8.67	0.00	-	8.67	0.00	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		3	-	8.67	0.00	-	8.67	0.00	-	-	-	-
1998	Pass	-	10		43.20	0.17	-	43.20	0.17	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		10	-	43.20	0.17	-	43.20	0.17	-	-	-	-
1999	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
2000	Pass	-	12		11.42	0.02	-	11.42	0.02	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		12	-	11.42	0.02	-	11.42	0.02	-	-	-	-
2001	Pass	-	1		31.00	-	-	31.00	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1	-	31.00	-	-	31.00	-	-	-	-	-
2002	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
Total Trucks													
All	Pass	-	34		40.06	0.14	0.00	40.06	0.14	0.00	-	-	-
T	Fail	Pass	1	2.9%	92.00	0.22	0.00	8.00	0.00	0.00	91.3%	100.0%	-
	Fail	Unresolv.	0	0.0%									
	Fail	Waiver	0	0.0%									
Total	Fail%		35	2.9%	41.54	0.14	0.00	39.14	0.14	0.00	5.8%	4.4%	-
Fleet Total													
All	Pass	-	80		42.76	0.16	-	42.76	0.16	-	-	-	-
All	Fail	Pass	1	1.2%	92.00	0.22	-	8.00	-	-	91.3%	100.0%	-
	Fail	Unresolv.	1	1.2%	1,130.00	0.62	-	372.90	0.20	-	67.0%	67.0%	-
	Fail	Waiver	0	-	-	-	-	-	-	-			-
Total	Fail%		82	2.4%	56.62	0.17	-	46.36	0.16	-	18.1%	4.6%	-

Appendix B3 Basic Idle Test Emissions Reductions

Unresolved fails remaining in area: 33%

Model Year/Type	First Result	Last Result	Vehicles	Fail%	Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	Reduction % HC	Reduction % CO	Reduction % NOX
1981	Pass	-	677		203.13	1.71	-	203.13	1.71	-	-	-	-
P	Fail	Pass	14	1.7%	412.14	1.05	-	237.29	0.64	-	42.4%	39.6%	-
	Fail	Unresolv.	140	16.8%	994.86	4.36	-	240.86	1.25	-	75.8%	71.4%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		831	18.5%	340.03	2.14	-	210.06	1.61	-	38.2%	24.8%	-
1982	Pass	-	100		77.76	0.19	-	77.76	0.19	-	-	-	-
P	Fail	Pass	3	2.2%	61.33	0.36	-	46.33	0.17	-	24.5%	54.1%	-
	Fail	Unresolv.	33	24.3%	835.12	3.76	-	183.34	0.82	-	78.0%	78.3%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		136	26.5%	261.17	1.06	-	102.69	0.34	-	60.7%	67.9%	-
1983	Pass	-	154		63.02	0.13	-	63.02	0.13	-	-	-	-
P	Fail	Pass	6	3.2%	352.67	3.46	-	108.83	0.50	-	69.1%	85.5%	-
	Fail	Unresolv.	29	15.3%	482.79	2.13	-	115.66	0.46	-	76.0%	78.3%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		189	18.5%	136.62	0.54	-	72.55	0.19	-	46.9%	64.9%	-
1984	Pass	-	348		80.25	0.16	-	80.25	0.16	-	-	-	-
P	Fail	Pass	10	2.4%	234.00	0.49	-	159.00	1.24	-	32.1%	-153.6%	-
	Fail	Unresolv.	55	13.3%	678.69	2.74	-	148.96	0.72	-	78.1%	73.8%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		413	15.7%	163.67	0.51	-	91.31	0.26	-	44.2%	49.2%	-
1985	Pass	-	496		76.55	0.16	-	76.55	0.16	-	-	-	-
P	Fail	Pass	21	3.5%	379.00	2.62	-	106.81	0.23	-	71.8%	91.2%	-
	Fail	Unresolv.	88	14.5%	518.89	3.10	-	144.20	0.81	-	72.2%	73.8%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		605	18.0%	151.39	0.67	-	87.44	0.25	-	42.2%	62.1%	-
1986	Pass	-	622		84.22	0.19	-	84.22	0.19	-	-	-	-
P	Fail	Pass	25	3.4%	232.32	1.27	-	134.96	0.38	-	41.9%	70.1%	-
	Fail	Unresolv.	88	12.0%	733.69	2.86	-	176.78	0.69	-	75.9%	76.0%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		735	15.4%	167.02	0.54	-	97.03	0.25	-	41.9%	53.4%	-
1987	Pass	-	701		80.38	0.17	-	80.38	0.17	-	-	-	-
P	Fail	Pass	20	2.6%	265.00	0.92	-	119.60	0.32	-	54.9%	65.0%	-
	Fail	Unresolv.	60	7.7%	542.57	2.17	-	144.35	0.54	-	73.4%	75.3%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		781	10.2%	120.61	0.35	-	86.30	0.21	-	28.5%	40.6%	-
1988	Pass	-	1,026		76.07	0.16	-	76.07	0.16	-	-	-	-
P	Fail	Pass	26	2.2%	210.96	0.68	-	108.92	0.26	-	48.4%	61.1%	-
	Fail	Unresolv.	110	9.5%	704.01	3.88	-	161.45	0.80	-	77.1%	79.4%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1,162	11.7%	138.53	0.52	-	84.89	0.22	-	38.7%	57.3%	-
1989	Pass	-	1,393		71.45	0.16	-	71.45	0.16	-	-	-	-
P	Fail	Pass	16	1.0%	293.75	1.42	-	109.56	0.18	-	62.7%	86.9%	-
	Fail	Unresolv.	117	7.7%	548.37	3.10	-	117.48	0.66	-	78.6%	78.6%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1,526	8.7%	110.34	0.40	-	75.38	0.20	-	31.7%	50.5%	-
1990	Pass	-	1,502		72.47	0.16	-	72.47	0.16	-	-	-	-
P	Fail	Pass	33	2.0%	229.61	0.76	-	93.00	0.21	-	59.5%	72.9%	-
	Fail	Unresolv.	115	7.0%	783.63	3.86	-	187.91	0.82	-	76.0%	78.8%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1,650	9.0%	125.18	0.43	-	80.93	0.21	-	35.4%	51.9%	-
1991	Pass	-	1,673		71.15	0.16	-	71.15	0.16	-	-	-	-
P	Fail	Pass	35	1.9%	289.26	1.09	-	95.43	0.25	-	67.0%	76.8%	-
	Fail	Unresolv.	97	5.4%	737.55	3.18	-	173.28	0.77	-	76.5%	75.9%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1,805	7.3%	111.19	0.34	-	77.11	0.19	-	30.7%	43.4%	-
1992	Pass	-	1,813		61.02	0.13	-	61.02	0.13	-	-	-	-
P	Fail	Pass	30	1.5%	267.90	0.92	-	100.80	0.28	-	62.4%	69.8%	-
	Fail	Unresolv.	97	5.0%	608.80	3.75	-	113.14	0.69	-	81.4%	81.5%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1,940	6.5%	91.61	0.33	-	64.24	0.16	-	29.9%	49.9%	-

Appendix B3 Basic Idle Test Emissions Reductions

Unresolved fails remaining in area: 33%

Model Year/Type	First Result	Last Result	Vehicles	Fail%	Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	Reduction % HC	Reduction % CO	Reduction % NOX
1993	Pass	-	2,034		56.80	0.11	-	56.80	0.11	-	-	-	-
P	Fail	Pass	26	1.2%	206.23	0.87	-	77.15	0.15	-	62.6%	83.1%	-
	Fail	Unresolv.	83	3.9%	522.93	3.59	-	115.42	0.68	-	77.9%	80.9%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		2,143	5.1%	76.66	0.25	-	59.32	0.13	-	22.6%	47.8%	-
1994	Pass	-	2,067		44.68	0.08	-	44.68	0.08	-	-	-	-
P	Fail	Pass	35	1.6%	148.74	0.97	-	70.00	0.14	-	52.9%	85.6%	-
	Fail	Unresolv.	53	2.5%	554.87	2.53	-	126.24	0.58	-	77.2%	77.0%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		2,155	4.1%	58.92	0.16	-	47.10	0.09	-	20.1%	39.3%	-
1995	Pass	-	2,376		36.96	0.06	-	36.96	0.06	-	-	-	-
P	Fail	Pass	21	0.9%	107.14	0.09	-	60.81	0.12	-	43.2%	-36.9%	-
	Fail	Unresolv.	25	1.0%	554.60	2.45	-	138.69	0.54	-	75.0%	77.8%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		2,422	1.9%	42.92	0.08	-	38.22	0.06	-	10.9%	23.7%	-
1996	Pass	-	2,196		47.52	0.15	-	47.52	0.15	-	-	-	-
P	Fail	Pass	32	1.4%	87.78	0.26	-	52.38	0.15	-	40.3%	43.3%	-
	Fail	Unresolv.	11	0.5%	417.09	2.86	-	98.55	0.54	-	76.4%	81.2%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		2,239	1.9%	49.91	0.16	-	47.84	0.15	-	4.1%	8.0%	-
1997	Pass	-	2,283		48.76	0.15	-	48.76	0.15	-	-	-	-
P	Fail	Pass	20	0.9%	48.75	0.14	-	46.05	0.14	-	5.5%	-0.7%	-
	Fail	Unresolv.	5	0.2%	181.20	2.96	-	51.02	0.82	-	71.8%	72.1%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		2,308	1.1%	49.04	0.16	-	48.74	0.15	-	0.6%	2.9%	-
1998	Pass	-	2,140		48.15	0.16	-	48.15	0.16	-	-	-	-
P	Fail	Pass	26	1.2%	62.00	0.14	-	39.96	0.15	-	35.5%	-7.9%	-
	Fail	Unresolv.	2	0.1%	589.00	7.95	-	101.64	1.39	-	82.7%	82.5%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		2,168	1.3%	48.81	0.17	-	48.10	0.16	-	1.5%	3.6%	-
1999	Pass	-	2,040		39.97	0.14	-	39.97	0.14	-	-	-	-
P	Fail	Pass	33	1.6%	46.09	0.11	-	36.91	0.12	-	19.9%	-9.7%	-
	Fail	Unresolv.	5	0.2%	523.60	6.49	-	93.65	1.10	-	82.1%	83.0%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		2,078	1.8%	41.23	0.15	-	40.05	0.14	-	2.9%	8.3%	-
2000	Pass	-	2,100		35.20	0.12	-	35.20	0.12	-	-	-	-
P	Fail	Pass	62	2.9%	23.65	0.08	-	18.19	0.08	-	23.1%	-6.3%	-
	Fail	Unresolv.	2	0.1%	1,266.00	0.61	-	271.10	0.11	-	78.6%	81.3%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		2,164	3.0%	36.01	0.12	-	34.93	0.12	-	3.0%	0.3%	-
2001	Pass	-	554		20.97	0.08	-	20.97	0.08	-	-	-	-
P	Fail	Pass	6	1.1%	16.17	0.05	-	9.00	0.02	-	44.3%	57.6%	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		560	1.1%	20.92	0.08	-	20.84	0.08	-	0.4%	0.4%	-
2002	Pass	-	113		19.88	0.08	-	19.88	0.08	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		113	-	19.88	0.08	-	19.88	0.08	-	-	-	-
Total Passenger Vehicles													
All	Pass	-	28,408		57.36	0.17	0.00	57.36	0.17	0.00	0.0%	0.0%	
P	Fail	Pass	500	1.7%	173.40	0.72	0.00	79.00	0.22	0.00	54.4%	69.1%	-
	Fail	Unresolv.	1,215	4.0%	676.35	3.37	0.00	157.54	0.77	0.00	76.7%	77.1%	-
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00			-
Total	Fail%		30,123	5.7%	84.25	0.31	0.00	61.76	0.19	0.00	26.7%	36.7%	-
1981	Pass	-	1,188		213.51	2.11	-	213.51	2.11	-	-	-	-
T	Fail	Pass	23	1.5%	1,058.09	2.41	-	301.00	1.86	-	71.6%	22.8%	-
	Fail	Unresolv.	316	20.7%	958.54	4.54	-	239.45	1.20	-	75.0%	73.7%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1,527	22.2%	380.41	2.62	-	220.19	1.92	-	42.1%	26.7%	-

Appendix B3 Basic Idle Test Emissions Reductions

Unresolved fails remaining in area: 33%

Model Year/Type	First Result	Last Result	Vehicles	Fail%	Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	Reduction % HC	Reduction % CO	Reduction % NOX
1982	Pass	-	118		86.20	0.26	-	86.20	0.26	-	-	-	-
T	Fail	Pass	16	7.9%	315.31	1.35	-	104.00	0.12	-	67.0%	91.0%	-
	Fail	Unresolv.	69	34.0%	499.68	2.95	-	112.41	0.81	-	77.5%	72.5%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		203	41.9%	244.80	1.26	-	96.51	0.44	-	60.6%	65.4%	-
1983	Pass	-	217		98.73	0.28	-	98.73	0.28	-	-	-	-
T	Fail	Pass	19	5.7%	252.58	0.80	-	149.84	0.79	-	40.7%	1.6%	-
	Fail	Unresolv.	98	29.3%	556.21	3.27	-	133.20	0.76	-	76.1%	76.8%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		334	35.0%	241.71	1.19	-	111.75	0.45	-	53.8%	62.1%	-
1984	Pass	-	331		84.64	0.21	-	84.64	0.21	-	-	-	-
T	Fail	Pass	26	5.4%	239.92	1.25	-	103.42	0.33	-	56.9%	73.5%	-
	Fail	Unresolv.	127	26.2%	738.93	2.55	-	158.25	0.56	-	78.6%	78.0%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		484	31.6%	264.66	0.88	-	104.96	0.31	-	60.3%	65.0%	-
1985	Pass	-	469		90.05	0.25	-	90.05	0.25	-	-	-	-
T	Fail	Pass	43	6.2%	385.19	2.15	-	87.05	0.20	-	77.4%	90.6%	-
	Fail	Unresolv.	179	25.9%	608.55	3.11	-	153.88	0.77	-	74.7%	75.3%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		691	32.1%	242.73	1.11	-	106.40	0.38	-	56.2%	65.6%	-
1986	Pass	-	625		90.76	0.23	-	90.76	0.23	-	-	-	-
T	Fail	Pass	38	4.5%	325.79	1.72	-	99.42	0.32	-	69.5%	81.5%	-
	Fail	Unresolv.	186	21.9%	646.10	3.01	-	145.79	0.65	-	77.4%	78.5%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		849	26.4%	222.95	0.90	-	103.21	0.32	-	53.7%	64.4%	-
1987	Pass	-	736		89.19	0.20	-	89.19	0.20	-	-	-	-
T	Fail	Pass	30	3.4%	516.87	2.10	-	113.83	0.18	-	78.0%	91.3%	-
	Fail	Unresolv.	116	13.2%	608.11	2.65	-	143.25	0.68	-	76.4%	74.2%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		882	16.6%	171.99	0.58	-	97.14	0.26	-	43.5%	55.5%	-
1988	Pass	-	971		82.12	0.17	-	82.12	0.17	-	-	-	-
T	Fail	Pass	21	1.9%	346.14	1.19	-	113.76	0.32	-	67.1%	73.1%	-
	Fail	Unresolv.	126	11.3%	520.95	2.77	-	123.71	0.62	-	76.3%	77.8%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1,118	13.1%	136.54	0.49	-	87.40	0.23	-	36.0%	53.4%	-
1989	Pass	-	1,094		86.79	0.17	-	86.79	0.17	-	-	-	-
T	Fail	Pass	48	3.8%	326.42	1.36	-	118.10	0.24	-	63.8%	82.3%	-
	Fail	Unresolv.	134	10.5%	754.54	3.14	-	137.72	0.69	-	81.7%	78.0%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1,276	14.3%	165.92	0.53	-	93.31	0.23	-	43.8%	56.6%	-
1990	Pass	-	1,104		80.13	0.20	-	80.13	0.20	-	-	-	-
T	Fail	Pass	37	2.9%	186.35	1.12	-	103.92	0.38	-	44.2%	66.3%	-
	Fail	Unresolv.	114	9.1%	446.57	2.69	-	110.67	0.59	-	75.2%	78.1%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1,255	12.0%	116.55	0.45	-	83.61	0.24	-	28.3%	47.1%	-
1991	Pass	-	1,210		72.70	0.14	-	72.70	0.14	-	-	-	-
T	Fail	Pass	32	2.4%	254.78	1.12	-	95.56	0.31	-	62.5%	72.1%	-
	Fail	Unresolv.	81	6.1%	618.09	3.21	-	134.93	0.65	-	78.2%	79.6%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1,323	8.5%	110.50	0.36	-	77.07	0.18	-	30.3%	49.6%	-
1992	Pass	-	1,463		75.67	0.14	-	75.67	0.14	-	-	-	-
T	Fail	Pass	35	2.2%	181.31	0.71	-	102.63	0.16	-	43.4%	77.6%	-
	Fail	Unresolv.	83	5.2%	638.58	4.07	-	138.00	0.75	-	78.4%	81.5%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1,581	7.5%	107.56	0.36	-	79.54	0.17	-	26.1%	52.1%	-
1993	Pass	-	1,639		71.46	0.14	-	71.46	0.14	-	-	-	-
T	Fail	Pass	25	1.4%	144.56	0.33	-	108.80	0.17	-	24.7%	49.6%	-
	Fail	Unresolv.	84	4.8%	757.43	3.09	-	161.54	0.60	-	78.7%	80.7%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1,748	6.2%	105.47	0.28	-	76.32	0.16	-	27.6%	43.1%	-

Appendix B3 Basic Idle Test Emissions Reductions

Unresolved fails remaining in area: 33%

Model Year/Type	First Result	Last Result	Vehicles	Fail%	Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	Reduction % HC	Reduction % CO	Reduction % NOX
1994	Pass	-	2,147		62.98	0.15	-	62.98	0.15	-	-	-	-
T	Fail	Pass	37	1.6%	127.73	0.25	-	88.05	0.17	-	31.1%	32.6%	-
	Fail	Unresolv.	62	2.8%	597.24	2.02	-	139.61	0.45	-	76.6%	77.5%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		2,246	4.4%	78.80	0.20	-	65.51	0.16	-	16.9%	21.7%	-
1995	Pass	-	2,107		56.90	0.13	-	56.90	0.13	-	-	-	-
T	Fail	Pass	46	2.1%	139.96	0.27	-	72.96	0.14	-	47.9%	47.7%	-
	Fail	Unresolv.	44	2.0%	590.11	1.94	-	135.77	0.43	-	77.0%	77.8%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		2,197	4.1%	69.32	0.17	-	58.82	0.14	-	15.1%	19.4%	-
1996	Pass	-	1,844		58.84	0.21	-	58.84	0.21	-	-	-	-
T	Fail	Pass	25	1.3%	44.92	0.14	-	39.68	0.11	-	11.7%	26.4%	-
	Fail	Unresolv.	6	0.3%	229.33	2.10	-	58.85	0.49	-	74.3%	76.5%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1,875	1.7%	59.20	0.22	-	58.59	0.21	-	1.0%	2.6%	-
1997	Pass	-	2,058		62.57	0.24	-	62.57	0.24	-	-	-	-
T	Fail	Pass	23	1.1%	63.83	0.20	-	46.70	0.19	-	26.8%	3.9%	-
	Fail	Unresolv.	7	0.3%	439.71	1.79	-	111.40	0.41	-	74.7%	77.4%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		2,088	1.4%	63.85	0.25	-	62.56	0.24	-	2.0%	1.9%	-
1998	Pass	-	2,311		53.54	0.21	-	53.54	0.21	-	-	-	-
T	Fail	Pass	22	0.9%	61.91	0.29	-	56.64	0.36	-	8.5%	-24.5%	-
	Fail	Unresolv.	2	0.1%	1,356.00	0.17	-	254.10	0.12	-	81.3%	29.1%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		2,335	1.0%	54.74	0.21	-	53.75	0.21	-	1.8%	-0.3%	-
1999	Pass	-	2,342		38.88	0.15	-	38.88	0.15	-	-	-	-
T	Fail	Pass	15	0.6%	50.60	0.23	-	29.40	0.10	-	41.9%	56.8%	-
	Fail	Unresolv.	1	0.0%	582.00	0.29	-	202.62	0.09	-	65.2%	70.4%	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		2,358	0.7%	39.18	0.15	-	38.89	0.15	-	0.8%	0.6%	-
2000	Pass	-	2,230		29.16	0.12	-	29.16	0.12	-	-	-	-
T	Fail	Pass	51	2.2%	23.22	0.08	-	28.65	0.09	-	-23.4%	-15.3%	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		2,281	2.2%	29.03	0.12	-	29.15	0.12	-	-0.4%	-0.2%	-
2001	Pass	-	339		18.05	0.09	-	18.05	0.09	-	-	-	-
T	Fail	Pass	10	2.9%	33.60	0.14	-	13.00	0.17	-	61.3%	-14.5%	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		349	2.9%	18.50	0.09	-	17.91	0.09	-	3.2%	-0.7%	-
2002	Pass	-	72		20.56	0.08	-	20.56	0.08	-	-	-	-
T	Fail	Pass	2	2.7%	8.00	0.00	-	0.50	-	-	93.8%	100.0%	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		74	2.7%	20.22	0.08	-	20.01	0.08	-	1.0%	0.2%	-
Total Trucks													
All	Pass	-	26,615		69.01	0.26	-	69.01	0.26	0.00	0.0%	0.0%	
T	Fail	Pass	624	2.1%	240.74	0.95	-	93.42	0.29	0.00	61.2%	69.2%	-
	Fail	Unresolv.	1,835	6.3%	676.00	3.20	-	156.37	0.75	0.00	76.9%	76.6%	-
	Fail	Waiver	0	0.0%	0.00	0.00	-	0.00	0.00	0.00			-
Total	Fail%		29,074	8.5%	111.00	0.46	-	75.05	0.29	0.00	32.4%	36.8%	-
Fleet Total													
All	Pass	-	55,023		62.99	0.21	-	62.99	0.21	-	-	-	
All	Fail	Pass	1,124	1.9%	210.78	0.85	-	87.00	0.26	-	58.7%	69.2%	-
	Fail	Unresolv.	3,050	5.2%	676.14	3.27	-	156.84	0.76	-	76.8%	76.8%	-
	Fail	Waiver	0	0.0%	0.00	0.00	-	0.00	0.00	-			-
Total	Fail%		59,197	7.1%	97.39	0.38	-	68.28	0.24	-	29.9%	36.7%	-

Appendix B3 Basic Idle Test Emissions Reductions - RapidScreen Audit Vehicles

Unresolved fails remaining in area 33%

Model Year/Type	First Result	Last Result	Vehicles	Fail%	Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	Reduction % HC	Reduction % CO	Reduction % NOX
1981	Pass	-	0		-	-	-	-	-	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1982	Pass	-	0		-	-	-	-	-	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1983	Pass	-	0		-	-	-	-	-	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1984	Pass	-	0		-	-	-	-	-	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1985	Pass	-	0		-	-	-	-	-	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1986	Pass	-	0		-	-	-	-	-	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1987	Pass	-	0		-	-	-	-	-	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1988	Pass	-	0		-	-	-	-	-	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1989	Pass	-	0		-	-	-	-	-	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1990	Pass	-	0		-	-	-	-	-	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1991	Pass	-	0		-	-	-	-	-	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1992	Pass	-	2		45.50	0.01	-	45.50	0.01	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		2	-	45.50	0.01	-	45.50	0.01	-	-	-	-

Appendix B3 Basic Idle Test Emissions Reductions - RapidScreen Audit Vehicles

Unresolved fails remaining in area 33%

Model Year/Type	First Result	Last Result	Vehicles	Fail%	Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	Reduction % HC	Reduction % CO	Reduction % NOX
1993	Pass	-	0		-	-	-	-	-	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1994	Pass	-	1		8.00	-	-	8.00	-	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1	-	8.00	-	-	8.00	-	-	-	-	-
1995	Pass	-	3		41.00	0.03	-	41.00	0.03	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		3	-	41.00	0.03	-	41.00	0.03	-	-	-	-
1996	Pass	-	5		15.40	0.10	-	15.40	0.10	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		5	-	15.40	0.10	-	15.40	0.10	-	-	-	-
1997	Pass	-	0		-	-	-	-	-	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1998	Pass	-	7		30.86	0.14	-	30.86	0.14	-	-	-	-
P	Fail	Pass	1	12.5%	53.00	0.29	-	95.00	0.50	-	-79.2%	-72.4%	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		8	12.5%	33.63	0.16	-	38.88	0.18	-	-15.6%	-16.8%	-
1999	Pass	-	1		94.00	0.31	-	94.00	0.31	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1	-	94.00	0.31	-	94.00	0.31	-	-	-	-
2000	Pass	-	5		44.40	0.09	-	44.40	0.09	-	-	-	-
P	Fail	Pass	1	16.7%	2.00	0.01	-	81.00	0.46	-	-3950.0%	-4500.0%	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		6	16.7%	37.33	0.08	-	50.50	0.15	-	-35.3%	-97.8%	-
2001	Pass	-	1		1.00	-	-	1.00	-	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		1	-	1.00	-	-	1.00	-	-	-	-	-
2002	Pass	-	0		-	-	-	-	-	-	-	-	-
P	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
Total Passenger Vehicles													
All	Pass	-	25		33.28	0.09	0.00	33.28	0.09	0.00	0.0%	0.0%	-
P	Fail	Pass	2	7.4%	27.50	0.15	0.00	88.00	0.48	0.00	-220.0%	-220.0%	-
	Fail	Unresolv.	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00			-
	Fail	Waiver	0	0.0%	0.00	0.00	0.00	0.00	0.00	0.00			-
Total	Fail%		27	7.4%	32.85	0.10	0.00	37.33	0.12	0.00	-13.6%	-25.0%	-
1981	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-

Appendix B3 Basic Idle Test Emissions Reductions - RapidScreen Audit Vehicles

Unresolved fails remaining in area 33%

Model Year/Type	First Result	Last Result	Vehicles	Fail%	Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	Reduction % HC	Reduction % CO	Reduction % NOX
1982	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1983	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1984	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1985	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1986	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1987	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1988	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1989	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1990	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1991	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1992	Pass	-	2		11.50	-	-	11.50	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		2	-	11.50	-	-	11.50	-	-	-	-	-
1993	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-

Appendix B3 Basic Idle Test Emissions Reductions - RapidScreen Audit Vehicles

Unresolved fails remaining in area 33%

Model Year/Type	First Result	Last Result	Vehicles	Fail%	Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	Reduction % HC	Reduction % CO	Reduction % NOX
1994	Pass	-	4		8.00	0.02	-	8.00	0.02	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		4	-	8.00	0.02	-	8.00	0.02	-	-	-	-
1995	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1996	Pass	-	2		38.50	0.32	-	38.50	0.32	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		2	-	38.50	0.32	-	38.50	0.32	-	-	-	-
1997	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
1998	Pass	-	10		45.00	0.17	-	45.00	0.17	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		10	-	45.00	0.17	-	45.00	0.17	-	-	-	-
1999	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
2000	Pass	-	7		40.86	0.20	-	40.86	0.20	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		7	-	40.86	0.20	-	40.86	0.20	-	-	-	-
2001	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
2002	Pass	-	0		-	-	-	-	-	-	-	-	-
T	Fail	Pass	0	-	-	-	-	-	-	-	-	-	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-	-	-	-
	Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%		0	-	-	-	-	-	-	-	-	-	-
Total Trucks													
All	Pass	-	25		34.72	0.15	0.00	34.72	0.15	0.00	0.0%	0.0%	-
T	Fail	Pass	0	0.0%	-	-	-	-	-	-			-
	Fail	Unresolv.	0	0.0%									
	Fail	Waiver	0	0.0%									
Total	Fail%		25	0.0%	34.72	0.15	0.00	34.72	0.15	0.00	0.0%	0.0%	-
Fleet Total													
All	Pass	-	50		34.00	0.12	-	34.00	0.12	-	-	-	-
All	Fail	Pass	2	3.8%	27.50	0.15	-	88.00	0.48	-	-220.0%	-220.0%	-
	Fail	Unresolv.	0	-	-	-	-	-	-	-			-
	Fail	Waiver	0	-	-	-	-	-	-	-			-
Total	Fail%		52	3.8%	33.75	0.12	-	36.08	0.14	-	-6.9%	-10.3%	-

Appendix B4 Tailpipe Test Emissions Reduction Summary

IM240 Emissions Reductions

First Result	Last Result	Vehicles	Fail %	Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	Reduction % HC	Reduction % CO	Reduction % NOX
Station Based Tests												
Pass	-	428,434	-	0.31	3.38	1.01	0.31	3.38	1.01	-	-	-
Fail	Pass	27,312	5.7%	1.80	21.86	2.40	0.51	5.15	1.54	71.8%	76.5%	35.7%
Fail	Unresolv.	10,711	2.2%	3.48	37.16	2.97	1.14	12.11	0.99	67.2%	67.4%	66.7%
Fail	Waiver	13,873	2.9%	3.44	37.91	3.10	3.07	34.11	2.93	10.8%	10.0%	5.5%
Total	Fail%	480,330	10.8%	0.56	6.18	1.19	0.42	4.56	1.09	24.4%	26.2%	8.2%
RapidScreen Audit Vehicles												
Pass	-	2,829	-	0.23	2.54	0.81	0.23	2.54	0.81	-	-	-
Fail	Pass	71	2.4%	0.67	7.36	1.63	0.27	3.38	0.94	60.0%	54.1%	42.5%
Fail	Unresolv.	14	0.5%	2.27	34.99	2.48	0.81	12.21	0.83	64.5%	65.1%	66.6%
Fail	Waiver	15	0.5%	1.75	19.46	3.23	1.70	30.53	2.91	2.8%	-56.9%	9.8%
Total	Fail%	2,929	3.4%	0.26	2.90	0.85	0.25	2.75	0.82	6.4%	5.1%	3.1%

Enhanced Idle Emissions Reductions

First Result	Last Result	Vehicles	Fail %	Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	Reduction % HC	Reduction % CO	Reduction % NOX
Station Based Tests												
Pass	-	24,067	-	118	0.66	-	118	0.66	-	-	-	-
Fail	Pass	800	2.7%	521	1.73	-	163	0.70	-	68.8%	59.8%	-
Fail	Unresolv.	5,300	17.6%	919	3.19	-	253	0.91	-	72.4%	71.6%	-
Fail	Waiver	0	-	-	-	-	-	-	-	-	-	-
Total	Fail%	30,167	20.2%	269	1.14	-	143	0.71	-	47.0%	37.7%	-
RapidScreen Audit Vehicles												
Pass	-	80	-	43	0.16	-	43	0.16	-	-	-	-
Fail	Pass	1	1.2%	92	0.22	-	8	-	-	91.3%	100.0%	-
Fail	Unresolv.	1	1.2%	1,130	0.62	-	373	0.20	-	67.0%	67.0%	-
Fail	Waiver	0	-	-	-	-	-	-	-			-
Total	Fail%	82	2.4%	57	0.17	-	46	0.16	-	18.1%	4.6%	-

Basic Idle Emissions Reductions

First Result	Last Result	Vehicles	Fail %	Initial HC	Initial CO	Initial NOX	Final HC	Final CO	Final NOX	Reduction % HC	Reduction % CO	Reduction % NOX
Station Based Tests												
Pass	-	55,023	-	63	0.21	-	63	0.21	-	-	-	-
Fail	Pass	1,124	1.9%	211	0.85	-	87	0.26	-	58.7%	69.2%	-
Fail	Unresolv.	3,050	5.2%	676	3.27	-	157	0.76	-	76.8%	76.8%	-
Fail	Waiver	0	-	-	-	-	-	-	-			-
Total	Fail%	59,197	7.1%	97	0.38	-	68	0.24	-	29.9%	36.7%	-
RapidScreen Audit Vehicles												
Pass	-	50	-	34	0.12	-	34	0.12	-	-	-	-
Fail	Pass	2	3.8%	28	0.15	-	88	0.48	-	-220.0%	-220.0%	-
Fail	Unresolv.	0	-	-	-	-	-	-	-			-
Fail	Waiver	0	-	-	-	-	-	-	-			-
Total	Fail%	52	3.8%	34	0.12	-	36	0.14	-	-6.9%	-10.3%	-

Appendix C – Annual IM240 Equivalent Tons

- **C1 – IM240 Tests**
- **C2 – Enhanced Idle Tests**
- **C3 – Basic Idle Tests**
- **C4 – Enhanced and Basic Reductions**

Appendix C Notes and Assumptions

Model Year/Type – Vehicles are grouped by model year and type. Type "P" are light duty passenger vehicles (LDGV) and type "T" are light duty trucks (LDGT). On pages showing results for Enhanced and Basic Idle tests, results for model year 1980 and older vehicles are included in the first section of the table along with the results for the 1981 model vehicles.

Tons Per Year –Tons of emissions produced or eliminated by the vehicles tested during one year of travel assuming the IM240 driving cycle.

Does not include cold start emissions, off-cycle emissions, evaporative emissions, different driving cycles or the effects of speed and temperature corrections.

Example Calculations:

IM240 Results, 1982 Model Year Type P (LDGV)

Appendix B1: 1,538 vehicles in year with initial test average of 28.15 g/mi CO

VMT Table VI-6: 1982 LDGV = 5,420 miles/yr

Initial tons/yr CO: 1,538 vehicles x 28.15 g/mi CO x 5420 mi/yr / 907,186 g/ton = 258.7 tons/yr

Enhanced Idle Results, 1981 & older Type P (LDGV)

Appendix B2: 7,117 vehicles in year with initial test average of 438.33 ppm HC

Table VI-4: IM240 g/mi = 0.0106* x 438.33 ppm HC - 0.3750 = 4.2858 g/mi HC

VMT Table VI-6: 1981 LDGV = 4,902 miles/yr

Initial tons/yr HC: 7,117 vehicles x 4.2858 g/mi HC x 4,902 mi/yr / 907,186 g/ton = 164.8 tons/yr

* Actual value is 0.010633

Appendix C1

Enhanced IM240 Test Reductions

Type	Annual Miles	Unique Vehicles	Initial Tons/Yr			Final Tons/Yr			Reduction Tons/Yr		
			HC	CO	NOX	HC	CO	NOX	HC	CO	NOX
P 1981	4,902	368	5.4	81.3	4.7	2.7	42.4	3.2	2.7	39.0	1.4
P 1982	5,420	1,538	17.6	258.7	22.0	10.9	163.9	17.0	6.6	94.7	5.0
P 1983	5,701	808	11.1	163.0	12.0	6.2	84.6	8.9	4.9	78.3	3.1
P 1984	5,997	5,117	53.8	764.1	77.9	34.5	483.7	62.2	19.3	280.4	15.7
P 1985	6,308	2,102	27.7	363.3	33.3	16.3	200.4	25.0	11.3	162.9	8.3
P 1986	6,636	10,071	100.6	1,120.9	155.4	64.2	696.3	124.4	36.3	424.7	31.0
P 1987	6,980	3,708	40.9	447.0	61.3	24.2	255.4	49.0	16.7	191.7	12.3
P 1988	7,342	16,799	143.6	1,456.4	252.2	95.4	938.8	210.8	48.1	517.6	41.4
P 1989	7,723	6,125	57.3	575.1	96.6	36.4	365.5	79.5	20.9	209.6	17.1
P 1990	8,124	24,110	188.3	2,083.8	389.5	133.1	1,398.8	339.8	55.1	684.9	49.6
P 1991	8,546	7,921	63.1	714.0	128.9	43.4	471.7	111.8	19.7	242.3	17.1
P 1992	8,989	30,023	204.4	2,445.3	465.8	153.5	1,685.0	431.7	51.0	760.3	34.1
P 1993	9,456	8,870	58.8	677.0	132.2	43.2	484.5	122.9	15.6	192.5	9.2
P 1994	9,947	34,993	179.7	1,878.2	453.9	147.8	1,525.3	434.0	31.9	352.9	19.9
P 1995	10,463	10,239	47.1	495.6	110.9	37.9	393.4	106.9	9.2	102.3	4.0
P 1996	11,006	34,185	97.9	1,170.2	294.0	87.4	991.5	285.8	10.5	178.6	8.1
P 1997	11,577	8,455	21.8	259.8	68.2	19.2	223.7	66.5	2.6	36.1	1.7
P 1998	12,178	35,824	68.3	915.3	227.5	64.4	843.8	224.8	3.8	71.5	2.7
P 1999	12,810	12,760	20.0	267.3	69.0	18.9	251.8	68.5	1.1	15.5	0.5
P 2000	13,475	44,582	45.8	641.0	193.3	43.8	598.2	191.7	2.0	42.8	1.6
P 2001	14,174	12,611	6.7	104.4	33.8	6.6	99.9	33.6	0.1	4.5	0.2
P 2002	14,910	4,334	2.2	30.6	9.4	2.1	30.5	9.4	0.1	0.1	0.0
P Total		315,543	1,462.1	16,912.3	3,291.5	1,092.4	12,229.1	3,007.6	369.8	4,683.2	283.9
T 1981	3,397	152	2.3	22.9	1.7	1.4	14.9	1.6	0.9	8.0	0.1
T 1982	4,154	848	11.6	133.8	11.0	8.0	97.6	10.4	3.6	36.2	0.6
T 1983	4,588	336	5.3	56.1	4.7	3.4	39.8	4.4	1.9	16.3	0.3
T 1984	5,055	2,229	34.0	419.0	34.1	21.2	271.1	29.6	12.8	147.9	4.5
T 1985	5,556	872	16.6	197.4	14.9	9.2	113.7	12.0	7.4	83.7	2.9
T 1986	6,093	4,657	66.3	733.9	82.1	44.0	489.2	73.3	22.3	244.8	8.8
T 1987	6,663	1,366	20.1	206.9	27.7	13.6	140.9	24.4	6.5	66.0	3.3
T 1988	7,269	7,377	91.5	791.8	160.9	67.1	602.2	142.8	24.4	189.6	18.1
T 1989	7,911	2,096	32.7	311.3	48.7	22.2	211.5	42.7	10.5	99.8	6.0
T 1990	8,589	9,307	115.5	1,154.6	225.1	91.4	849.0	209.0	24.2	305.6	16.1
T 1991	9,305	2,498	33.2	327.5	55.7	25.8	244.6	52.9	7.3	82.9	2.8
T 1992	10,057	13,940	176.8	1,678.8	363.6	145.0	1,351.6	344.6	31.7	327.2	19.0
T 1993	10,849	3,409	41.9	398.5	90.7	35.4	328.0	87.2	6.6	70.5	3.5
T 1994	11,681	19,656	220.1	2,017.5	515.7	198.3	1,827.2	494.6	21.9	190.3	21.1
T 1995	12,553	4,320	44.7	449.2	110.1	40.5	415.5	107.0	4.1	33.7	3.1
T 1996	13,465	18,011	85.8	1,057.7	319.1	79.1	959.7	302.7	6.8	98.0	16.4
T 1997	14,420	4,666	19.6	282.3	77.9	18.0	257.0	75.4	1.5	25.3	2.5
T 1998	15,417	23,681	80.1	1,088.0	366.7	77.8	1,045.0	359.0	2.3	43.0	7.7
T 1999	16,459	8,974	25.1	296.4	110.0	24.2	286.6	109.3	1.0	9.8	0.7
T 2000	17,546	29,071	61.0	744.6	280.3	60.0	731.6	278.6	1.0	12.9	1.8
T 2001	18,680	5,047	5.8	90.2	27.3	5.7	89.6	27.2	0.0	0.6	0.1
T 2002	19,863	2,274	2.2	39.0	12.4	2.2	39.0	12.4	0.0	0.1	0.0
T Total		164,787	1,192.3	12,497.5	2,940.3	993.6	10,405.2	2,801.0	198.7	2,092.4	139.3
Total		480,330	2,654.4	29,409.9	6,231.8	2,086.0	22,634.2	5,808.6	568.4	6,775.6	423.2

Appendix C1

Enhanced IM240 Audit Reductions

Type	Annual Miles	Unique Vehicles	Initial Tons/Yr			Final Tons/Yr			Reduction Tons/Yr		
			HC	CO	NOX	HC	CO	NOX	HC	CO	NOX
P 1981	4,902	-	0.0	-	-	0.0	-	-	0.0	0.0	0.0
P 1982	5,420	-	0.0	-	-	0.0	-	-	0.0	0.0	0.0
P 1983	5,701	-	0.0	-	-	0.0	-	-	0.0	0.0	0.0
P 1984	5,997	2	0.0	0.1	0.02	0.0	0.1	0.02	0.0	0.0	0.0
P 1985	6,308	-	0.0	-	-	0.0	-	-	0.0	0.0	0.0
P 1986	6,636	11	0.0	0.4	0.15	0.0	0.4	0.15	0.0	0.0	0.0
P 1987	6,980	-	0.0	-	-	0.0	-	-	0.0	0.0	0.0
P 1988	7,342	23	0.2	1.0	0.34	0.1	0.8	0.26	0.1	0.2	0.1
P 1989	7,723	1	0.0	0.0	0.01	0.0	0.0	0.01	0.0	0.0	0.0
P 1990	8,124	75	0.3	3.6	1.00	0.3	3.4	0.97	0.0	0.2	0.0
P 1991	8,546	9	0.0	0.4	0.13	0.0	0.3	0.10	0.0	0.1	0.0
P 1992	8,989	98	0.5	6.6	1.35	0.5	7.8	1.20	0.1	-1.2	0.2
P 1993	9,456	10	0.0	0.4	0.20	0.0	0.3	0.16	0.0	0.1	0.0
P 1994	9,947	233	1.0	9.6	2.86	1.0	9.5	2.85	0.0	0.1	0.0
P 1995	10,463	24	0.1	0.9	0.35	0.1	0.8	0.35	0.0	0.1	0.0
P 1996	11,006	391	1.0	11.8	3.36	0.9	10.1	3.28	0.1	1.7	0.1
P 1997	11,577	15	0.0	0.3	0.11	0.0	0.3	0.11	0.0	0.0	0.0
P 1998	12,178	491	1.0	11.9	3.28	1.0	11.8	3.28	0.0	0.1	0.0
P 1999	12,810	4	0.0	0.1	0.03	0.0	0.1	0.03	0.0	0.0	0.0
P 2000	13,475	448	0.4	5.7	1.84	0.4	5.8	1.85	0.0	0.0	0.0
P 2001	14,174	-	0.0	-	-	0.0	-	-	0.0	0.0	0.0
P 2002	14,910	-	0.0	-	-	0.0	-	-	0.0	0.0	0.0
P Total		1,835	4.7	52.8	15.03	4.4	51.5	14.60	0.3	1.4	0.4
T 1981	3,397	-	0.0	-	-	0.0	-	-	0.0	0.0	0.0
T 1982	4,154	-	0.0	-	-	0.0	-	-	0.0	0.0	0.0
T 1983	4,588	-	0.0	-	-	0.0	-	-	0.0	0.0	0.0
T 1984	5,055	1	0.0	0.2	0.02	0.0	0.0	0.01	0.0	0.1	0.0
T 1985	5,556	1	0.0	0.3	0.01	0.0	0.1	0.00	0.0	0.2	0.0
T 1986	6,093	3	0.0	0.1	0.05	0.0	0.1	0.05	0.0	0.0	0.0
T 1987	6,663	1	0.0	0.0	0.04	0.0	0.0	0.04	0.0	0.0	0.0
T 1988	7,269	10	0.1	0.6	0.16	0.1	0.6	0.16	0.0	0.0	0.0
T 1989	7,911	-	0.0	-	-	0.0	-	-	0.0	0.0	0.0
T 1990	8,589	13	0.3	3.9	0.26	0.2	2.0	0.26	0.1	1.8	0.0
T 1991	9,305	2	0.0	0.2	0.03	0.0	0.2	0.03	0.0	0.0	0.0
T 1992	10,057	35	0.3	2.9	0.96	0.3	2.8	0.95	0.0	0.1	0.0
T 1993	10,849	8	0.1	0.8	0.16	0.1	0.8	0.16	0.0	0.0	0.0
T 1994	11,681	131	1.3	11.5	3.32	1.2	11.3	3.26	0.0	0.2	0.1
T 1995	12,553	9	0.1	1.1	0.31	0.1	1.1	0.31	0.0	0.0	0.0
T 1996	13,465	216	0.9	11.1	3.62	0.9	10.6	3.45	0.0	0.5	0.2
T 1997	14,420	15	0.1	1.1	0.35	0.1	0.8	0.30	0.0	0.3	0.1
T 1998	15,417	310	1.1	13.7	5.01	1.1	13.6	4.91	0.0	0.1	0.1
T 1999	16,459	7	0.0	0.2	0.09	0.0	0.2	0.09	0.0	0.0	0.0
T 2000	17,546	332	0.7	7.9	3.49	0.7	7.8	3.46	0.0	0.1	0.0
T 2001	18,680	-	0.0	-	-	0.0	-	-	0.0	0.0	0.0
T 2002	19,863	-	0.0	-	-	0.0	-	-	0.0	0.0	0.0
T Total		1,094	5.0	55.4	17.88	4.8	52.1	17.42	0.2	3.3	0.5
Total		2,929	9.7	108.2	32.91	9.2	103.5	32.02	0.5	4.7	0.9

Appendix C2

Enhanced Area Idle Test Reductions

Type	Annual Miles	Unique Vehicles	Initial Tons/Yr			Final Tons/Yr			Reduction Tons/Yr		
			HC	CO	NOX	HC	CO	NOX	HC	CO	NOX
P 1981	4,902	7,117	164.8	2,865.5		84.9	1,967.7		79.9	897.8	-
P 1982	5,420	219	3.5	49.4		1.1	17.5		2.3	31.9	-
P 1983	5,701	142	2.4	45.4		0.9	15.9		1.6	29.5	-
P 1984	5,997	590	9.8	127.3		3.7	37.2		6.1	90.1	-
P 1985	6,308	249	6.0	65.1		2.1	23.1		3.9	42.1	-
P 1986	6,636	706	14.2	163.8		5.5	55.6		8.7	108.2	-
P 1987	6,980	252	8.2	62.1		2.8	23.5		5.4	38.6	-
P 1988	7,342	687	11.1	104.6		5.3	43.1		5.9	61.5	-
P 1989	7,723	207	3.4	32.9		1.3	12.1		2.1	20.8	-
P 1990	8,124	640	9.0	108.1		4.3	44.7		4.7	63.4	-
P 1991	8,546	278	3.8	39.4		1.7	15.4		2.1	24.0	-
P 1992	8,989	979	10.2	145.0		5.2	62.7		5.0	82.3	-
P 1993	9,456	277	4.1	37.7		1.7	13.9		2.3	23.8	-
P 1994	9,947	1,324	9.2	67.8		5.9	45.4		3.3	22.5	-
P 1995	10,463	294	1.3	13.1		0.7	5.4		0.6	7.7	-
P 1996	11,006	794	-0.2	-1.5		-0.6	-5.2		0.5	3.7	-
P 1997	11,577	232	0.0	2.5		-0.1	-0.3		0.1	2.9	-
P 1998	12,178	713	0.8	6.7		0.5	-0.5		0.3	7.1	-
P 1999	12,810	232	-0.3	-2.2		-0.3	-2.3		0.0	0.0	-
P 2000	13,475	901	-1.4	-10.9		-1.8	-17.4		0.5	6.5	-
P 2001	14,174	247	-0.9	-5.8		-0.9	-6.7		0.0	0.9	-
P 2002	14,910	90	-0.3	-2.6		-0.3	-2.9		0.1	0.3	-
P Total		17,170	258.8	3,913.3	-	123.6	2,347.8	-	135.2	1,565.6	-
T 1981	3,397	3,924	85.0	1,127.4		41.9	763.5		43.1	363.9	-
T 1982	4,154	171	4.9	49.1		1.6	17.5		3.3	31.6	-
T 1983	4,588	91	3.6	27.4		1.2	9.1		2.4	18.3	-
T 1984	5,055	445	11.1	95.3		4.1	33.2		7.0	62.1	-
T 1985	5,556	195	5.5	41.6		2.0	15.0		3.5	26.6	-
T 1986	6,093	764	23.1	211.0		8.7	73.3		14.4	137.7	-
T 1987	6,663	254	7.4	71.6		2.9	26.7		4.5	44.9	-
T 1988	7,269	815	17.9	147.6		8.2	65.5		9.7	82.1	-
T 1989	7,911	223	7.1	49.3		3.0	22.1		4.1	27.2	-
T 1990	8,589	589	13.4	115.2		6.7	53.1		6.7	62.1	-
T 1991	9,305	171	4.8	34.1		2.1	15.2		2.6	18.9	-
T 1992	10,057	535	11.8	80.9		6.8	49.1		5.0	31.8	-
T 1993	10,849	131	3.8	27.7		2.2	16.2		1.6	11.4	-
T 1994	11,681	583	11.7	96.5		7.8	72.8		3.9	23.7	-
T 1995	12,553	106	2.1	12.5		1.3	10.8		0.8	1.7	-
T 1996	13,465	435	2.6	25.0		2.0	23.5		0.5	1.4	-
T 1997	14,420	246	1.0	11.7		1.0	11.5		0.0	0.2	-
T 1998	15,417	868	2.6	37.6		2.5	36.9		0.1	0.6	-
T 1999	16,459	395	0.8	11.0		0.8	11.2		0.0	-0.2	-
T 2000	17,546	1,452	1.6	39.4		1.5	39.1		0.1	0.3	-
T 2001	18,680	365	-0.2	5.2		-0.2	5.2		0.0	0.0	-
T 2002	19,863	239	-0.3	3.0		-0.3	3.0		0.0	0.0	-
T Total		12,997	221.2	2,320.2	-	107.7	1,373.5	-	113.5	946.7	-
Total		30,167	480.0	6,233.6	-	231.3	3,721.3	-	248.8	2,512.2	-

Appendix C2

Enhanced Area Idle Test RapidScreen Audit Reductions

Type	Annual Miles	Unique Vehicles	Initial Tons/Yr			Final Tons/Yr			Reduction Tons/Yr		
			HC	CO	NOX	HC	CO	NOX	HC	CO	NOX
P 1981	4,902	1	0.0	0.7		0.0	0.7		0.0	0.0	-
P 1982	5,420	-	0.0	0.0		0.0	0.0		0.0	0.0	-
P 1983	5,701	-	0.0	0.0		0.0	0.0		0.0	0.0	-
P 1984	5,997	-	0.0	0.0		0.0	0.0		0.0	0.0	-
P 1985	6,308	-	0.0	0.0		0.0	0.0		0.0	0.0	-
P 1986	6,636	-	0.0	0.0		0.0	0.0		0.0	0.0	-
P 1987	6,980	-	0.0	0.0		0.0	0.0		0.0	0.0	-
P 1988	7,342	1	0.1	0.2		0.0	0.0		0.1	0.1	-
P 1989	7,723	-	0.0	0.0		0.0	0.0		0.0	0.0	-
P 1990	8,124	3	0.0	0.4		0.0	0.4		0.0	0.0	-
P 1991	8,546	-	0.0	0.0		0.0	0.0		0.0	0.0	-
P 1992	8,989	3	0.0	0.4		0.0	0.4		0.0	0.0	-
P 1993	9,456	-	0.0	0.0		0.0	0.0		0.0	0.0	-
P 1994	9,947	10	0.0	0.1		0.0	0.1		0.0	0.0	-
P 1995	10,463	1	0.0	0.0		0.0	0.0		0.0	0.0	-
P 1996	11,006	11	0.0	0.0		0.0	0.0		0.0	0.0	-
P 1997	11,577	-	0.0	0.0		0.0	0.0		0.0	0.0	-
P 1998	12,178	3	0.0	0.0		0.0	0.0		0.0	0.0	-
P 1999	12,810	1	0.0	0.0		0.0	0.0		0.0	0.0	-
P 2000	13,475	12	0.0	-0.4		0.0	-0.4		0.0	0.0	-
P 2001	14,174	1	0.0	0.0		0.0	0.0		0.0	0.0	-
P 2002	14,910	-	0.0	0.0		0.0	0.0		0.0	0.0	-
P Total		47	0.1	1.4	-	0.1	1.3	-	0.1	0.1	-
T 1981	3,397	-	0.0	0.0		0.0	0.0		0.0	0.0	-
T 1982	4,154	-	0.0	0.0		0.0	0.0		0.0	0.0	-
T 1983	4,588	-	0.0	0.0		0.0	0.0		0.0	0.0	-
T 1984	5,055	1	0.0	0.1		0.0	0.1		0.0	0.0	-
T 1985	5,556	-	0.0	0.0		0.0	0.0		0.0	0.0	-
T 1986	6,093	-	0.0	0.0		0.0	0.0		0.0	0.0	-
T 1987	6,663	-	0.0	0.0		0.0	0.0		0.0	0.0	-
T 1988	7,269	-	0.0	0.0		0.0	0.0		0.0	0.0	-
T 1989	7,911	-	0.0	0.0		0.0	0.0		0.0	0.0	-
T 1990	8,589	-	0.0	0.0		0.0	0.0		0.0	0.0	-
T 1991	9,305	-	0.0	0.0		0.0	0.0		0.0	0.0	-
T 1992	10,057	1	0.0	0.0		0.0	0.0		0.0	0.0	-
T 1993	10,849	-	0.0	0.0		0.0	0.0		0.0	0.0	-
T 1994	11,681	3	0.1	0.7		0.1	0.7		0.0	0.0	-
T 1995	12,553	-	0.0	0.0		0.0	0.0		0.0	0.0	-
T 1996	13,465	4	0.0	0.4		0.0	0.3		0.0	0.1	-
T 1997	14,420	3	0.0	0.0		0.0	0.0		0.0	0.0	-
T 1998	15,417	10	0.1	0.9		0.1	0.9		0.0	0.0	-
T 1999	16,459	-	0.0	0.0		0.0	0.0		0.0	0.0	-
T 2000	17,546	12	0.0	0.2		0.0	0.2		0.0	0.0	-
T 2001	18,680	1	0.0	0.0		0.0	0.0		0.0	0.0	-
T 2002	19,863	-	0.0	0.0		0.0	0.0		0.0	0.0	-
T Total		35	0.2	2.3	-	0.1	2.2	-	0.0	0.1	-
Total		82	0.3	3.7	-	0.2	3.5	-	0.1	0.2	-

Appendix C3

Basic Area Idle Test Reductions

Type	Annual Miles	Unique Vehicles	Initial Tons/Yr			Final Tons/Yr			Reduction Tons/Yr		
			HC	CO	NOX	HC	CO	NOX	HC	CO	NOX
P 1981	4,902	831	14.6	351.6		8.3	261.8		6.2	89.8	-
P 1982	5,420	136	2.0	30.5		0.6	8.5		1.4	22.0	-
P 1983	5,701	189	1.3	21.4		0.5	5.7		0.8	15.6	-
P 1984	5,997	413	3.7	46.2		1.6	20.4		2.1	25.8	-
P 1985	6,308	605	5.2	96.2		2.3	30.5		2.9	65.7	-
P 1986	6,636	735	7.5	97.6		3.5	38.9		4.0	58.7	-
P 1987	6,980	781	5.5	64.6		3.3	32.8		2.2	31.8	-
P 1988	7,342	1,162	10.3	164.2		5.0	57.7		5.4	106.5	-
P 1989	7,723	1,526	10.4	163.4		5.5	65.8		4.8	97.5	-
P 1990	8,124	1,650	14.1	204.7		7.2	80.8		7.0	124.0	-
P 1991	8,546	1,805	13.7	176.0		7.6	82.6		6.2	93.4	-
P 1992	8,989	1,940	11.5	191.9		5.9	74.1		5.6	117.8	-
P 1993	9,456	2,143	9.8	161.7		5.7	59.9		4.1	101.8	-
P 1994	9,947	2,155	5.9	84.7		3.0	30.1		3.0	54.6	-
P 1995	10,463	2,422	2.3	21.8		0.9	1.4		1.4	20.4	-
P 1996	11,006	2,239	4.2	103.6		3.6	90.3		0.6	13.3	-
P 1997	11,577	2,308	4.3	108.8		4.2	103.7		0.1	5.1	-
P 1998	12,178	2,168	4.2	114.7		4.0	108.2		0.2	6.5	-
P 1999	12,810	2,078	1.9	102.6		1.5	88.5		0.4	14.1	-
P 2000	13,475	2,164	0.3	72.0		-0.1	71.6		0.4	0.4	-
P 2001	14,174	560	-1.3	7.5		-1.3	7.4		0.0	0.1	-
P 2002	14,910	113	-0.3	1.2		-0.3	1.2		0.0	0.0	-
P Total		30,123	131.0	2,386.9	-	72.4	1,321.9	-	58.6	1,065.0	-
T 1981	3,397	1,527	24.8	426.5		13.9	313.1		10.8	113.3	-
T 1982	4,154	203	2.5	33.5		0.9	11.9		1.6	21.6	-
T 1983	4,588	334	4.5	57.6		2.0	22.3		2.6	35.2	-
T 1984	5,055	484	8.0	68.3		2.9	24.8		5.1	43.6	-
T 1985	5,556	691	11.4	134.8		4.6	47.6		6.8	87.2	-
T 1986	6,093	849	14.1	148.3		6.0	54.6		8.1	93.7	-
T 1987	6,663	882	12.1	109.7		6.4	50.5		5.7	59.3	-
T 1988	7,269	1,118	13.0	127.3		7.8	61.6		5.2	65.7	-
T 1989	7,911	1,276	20.0	171.4		10.5	77.3		9.5	94.1	-
T 1990	8,589	1,255	14.4	157.0		9.8	85.6		4.6	71.3	-
T 1991	9,305	1,323	15.5	142.6		10.1	75.0		5.4	67.6	-
T 1992	10,057	1,581	19.4	185.5		13.6	93.2		5.8	92.4	-
T 1993	10,849	1,748	22.6	177.1		15.4	104.9		7.2	72.2	-
T 1994	11,681	2,246	22.2	180.9		17.7	144.5		4.5	36.4	-
T 1995	12,553	2,197	20.0	160.1		16.2	131.8		3.8	28.3	-
T 1996	13,465	1,875	14.9	184.4		14.7	179.9		0.2	4.4	-
T 1997	14,420	2,088	19.6	247.8		19.1	243.4		0.5	4.4	-
T 1998	15,417	2,335	19.2	255.0		18.7	255.7		0.5	-0.7	-
T 1999	16,459	2,358	12.8	204.0		12.7	202.9		0.1	1.1	-
T 2000	17,546	2,281	8.0	170.8		8.0	171.2		-0.1	-0.3	-
T 2001	18,680	349	0.4	21.5		0.4	21.6		0.1	-0.1	-
T 2002	19,863	74	0.1	4.5		0.1	4.4		0.0	0.0	-
T Total		29,074	299.7	3,368.6	-	211.7	2,377.9	-	88.1	990.7	-
Total		59,197	430.7	5,755.6	-	284.1	3,699.8	-	146.7	2,055.8	-

Appendix C3

Basic Area Idle Test RapidScreen Audit Reductions

Type	Annual Miles	Unique Vehicles	Initial Tons/Yr			Final Tons/Yr			Reduction Tons/Yr		
			HC	CO	NOX	HC	CO	NOX	HC	CO	NOX
P 1981	4,902	-	0.0	-		0.0	-		0.0	0.0	-
P 1982	5,420	-	0.0	-		0.0	-		0.0	0.0	-
P 1983	5,701	-	0.0	-		0.0	-		0.0	0.0	-
P 1984	5,997	-	0.0	-		0.0	-		0.0	0.0	-
P 1985	6,308	-	0.0	-		0.0	-		0.0	0.0	-
P 1986	6,636	-	0.0	-		0.0	-		0.0	0.0	-
P 1987	6,980	-	0.0	-		0.0	-		0.0	0.0	-
P 1988	7,342	-	0.0	-		0.0	-		0.0	0.0	-
P 1989	7,723	-	0.0	-		0.0	-		0.0	0.0	-
P 1990	8,124	-	0.0	-		0.0	-		0.0	0.0	-
P 1991	8,546	-	0.0	-		0.0	-		0.0	0.0	-
P 1992	8,989	2	0.0	(0.0)		0.0	(0.0)		0.0	0.0	-
P 1993	9,456	-	0.0	-		0.0	-		0.0	0.0	-
P 1994	9,947	1	0.0	(0.0)		0.0	(0.0)		0.0	0.0	-
P 1995	10,463	3	0.0	(0.0)		0.0	(0.0)		0.0	0.0	-
P 1996	11,006	5	0.0	0.1		0.0	0.1		0.0	0.0	-
P 1997	11,577	-	0.0	-		0.0	-		0.0	0.0	-
P 1998	12,178	8	0.0	0.4		0.0	0.5		0.0	-0.1	-
P 1999	12,810	1	0.0	0.1		0.0	0.1		0.0	0.0	-
P 2000	13,475	6	0.0	0.1		0.0	0.3		0.0	-0.3	-
P 2001	14,174	1	0.0	(0.0)		0.0	(0.0)		0.0	0.0	-
P 2002	14,910	-	0.0	-		0.0	-		0.0	0.0	-
P Total		27	0.0	0.5	-	0.0	0.9	-	0.0	-0.4	-
T 1981	3,397	-	0.0	-		0.0	-		0.0	0.0	-
T 1982	4,154	-	0.0	-		0.0	-		0.0	0.0	-
T 1983	4,588	-	0.0	-		0.0	-		0.0	0.0	-
T 1984	5,055	-	0.0	-		0.0	-		0.0	0.0	-
T 1985	5,556	-	0.0	-		0.0	-		0.0	0.0	-
T 1986	6,093	-	0.0	-		0.0	-		0.0	0.0	-
T 1987	6,663	-	0.0	-		0.0	-		0.0	0.0	-
T 1988	7,269	-	0.0	-		0.0	-		0.0	0.0	-
T 1989	7,911	-	0.0	-		0.0	-		0.0	0.0	-
T 1990	8,589	-	0.0	-		0.0	-		0.0	0.0	-
T 1991	9,305	-	0.0	-		0.0	-		0.0	0.0	-
T 1992	10,057	2	0.0	0.0		0.0	0.0		0.0	0.0	-
T 1993	10,849	-	0.0	-		0.0	-		0.0	0.0	-
T 1994	11,681	4	0.0	0.0		0.0	0.0		0.0	0.0	-
T 1995	12,553	-	0.0	-		0.0	-		0.0	0.0	-
T 1996	13,465	2	0.0	0.3		0.0	0.3		0.0	0.0	-
T 1997	14,420	-	0.0	-		0.0	-		0.0	0.0	-
T 1998	15,417	10	0.1	0.9		0.1	0.9		0.0	0.0	-
T 1999	16,459	-	0.0	-		0.0	-		0.0	0.0	-
T 2000	17,546	7	0.0	0.8		0.0	0.8		0.0	0.0	-
T 2001	18,680	-	0.0	-		0.0	-		0.0	0.0	-
T 2002	19,863	-	0.0	-		0.0	-		0.0	0.0	-
T Total		25	0.1	2.0	-	0.1	2.0	-	0.0	0.0	-
Total		52	0.1	2.6	-	0.1	2.9	-	0.0	-0.4	-

Appendix C4

Enhanced and Basic IM240 Equivalent Tons Per Year Reduction

		HC Tons/Year			CO Tons/Year			NOx Tons/Year		
Type	Unique Vehicles	After I/M Emissions	Enhanced Reduction	Basic Reduction	After I/M Emissions	Enhanced Reduction	Basic Reduction	After I/M Emissions	Enhanced Reduction	Basic Reduction
P 1981	8,316	96	83	6	2,272	937	90	3	1	-
P 1982	1,893	13	9	1	190	127	22	17	5	-
P 1983	1,139	8	7	1	106	108	16	9	3	-
P 1984	6,120	40	25	2	541	370	26	62	16	-
P 1985	2,956	21	15	3	254	205	66	25	8	-
P 1986	11,512	73	45	4	791	533	59	124	31	-
P 1987	4,741	30	22	2	312	230	32	49	12	-
P 1988	18,648	106	54	5	1,040	579	107	211	41	-
P 1989	7,858	43	23	5	443	230	98	79	17	-
P 1990	26,400	145	60	7	1,524	748	124	340	50	-
P 1991	10,004	53	22	6	570	266	93	112	17	-
P 1992	32,942	165	56	6	1,822	843	118	432	34	-
P 1993	11,290	51	18	4	558	216	102	123	9	-
P 1994	38,472	157	35	3	1,601	375	55	434	20	-
P 1995	12,955	40	10	1	400	110	20	107	4	-
P 1996	37,218	90	11	1	1,077	182	13	286	8	-
P 1997	10,995	23	3	0	327	39	5	67	2	-
P 1998	38,705	69	4	0	951	79	6	225	3	-
P 1999	15,070	20	1	0	338	16	14	68	1	-
P 2000	47,647	42	2	0	652	49	0	192	2	-
P 2001	13,418	4	0	0	101	5	0	34	0	-
P 2002	4,537	1	0	0	29	0	0	9	0	-
P Total	362,836	1,288	505	59	15,899	6,249	1,065	3,008	284	-
T 1981	5,603	57	44	11	1,092	372	113	2	0	-
T 1982	1,222	11	7	2	127	68	22	10	1	-
T 1983	761	7	4	3	71	35	35	4	0	-
T 1984	3,158	28	20	5	329	210	44	30	5	-
T 1985	1,758	16	11	7	176	110	87	12	3	-
T 1986	6,270	59	37	8	617	383	94	73	9	-
T 1987	2,502	23	11	6	218	111	59	24	3	-
T 1988	9,310	83	34	5	729	272	66	143	18	-
T 1989	3,595	36	15	10	311	127	94	43	6	-
T 1990	11,151	108	31	5	988	368	71	209	16	-
T 1991	3,992	38	10	5	335	102	68	53	3	-
T 1992	16,056	165	37	6	1,494	359	92	345	19	-
T 1993	5,288	53	8	7	449	82	72	87	4	-
T 1994	22,485	224	26	5	2,045	214	36	495	21	-
T 1995	6,623	58	5	4	558	35	28	107	3	-
T 1996	20,321	96	7	0	1,163	99	4	303	16	-
T 1997	7,000	38	2	1	512	26	4	75	2	-
T 1998	26,884	99	2	0	1,338	44	-1	359	8	-
T 1999	11,727	38	1	0	501	10	1	109	1	-
T 2000	32,804	69	1	0	942	13	0	279	2	-
T 2001	5,761	6	0	0	116	1	0	27	0	-
T 2002	2,587	2	0	0	46	0	0	12	0	-
T Total	206,858	1,313	312	88	14,157	3,039	991	2,801	139	-
Total	569,694	2,601	817	147	30,055	9,288	2,056	5,809	423	-

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